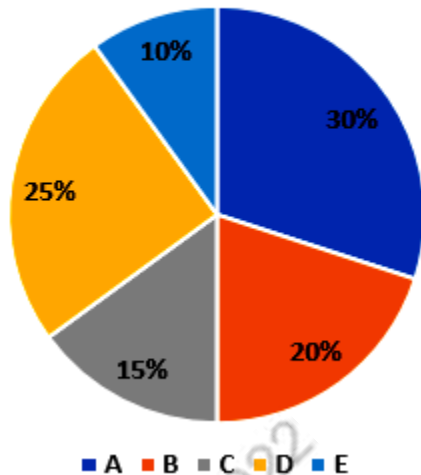**The given pie chart shows the percentage distribution of the of populations in five different towns and the table shows the percentage of males, females and children in each town. Some data are missing, calculate the missing data if required.**

Total Population of five Differnet Town = 8000

Town	Male %	Female %	Children %
A	$33\frac{1}{3}\%$	-	-
B	-	-	25%
C	-	-	$41\frac{2}{3}\%$
D	-	30%	-
E	50%	-	-

Note - Total Population of a town = (Male + Female + Children)

1) If the ratio of the total number of males to the total number of females in Town C is 3:4, then find the Total number of males in Town A and Town C together is how many more than that of in town E?
A. 694   B. 520   C. 725   D. 700   E. 660

2) If the ratio of the total number of children in town D and that of in town E is 4:1 and the number of females and Children in town E are equal, then find the total female in town D is what Percentage of total children in town E and town D together?
A. 70%   B. 50%   C. 60%   D. 68%   E. 65%

3) If the number of males in town B, C, and D in the ratio of 2:1:2 respectively and the average number of males in all five towns is 540, then find the number of males in town C?
A. 294   B. 320   C. 325   D. 300   E. 260

4) Find the ratio of total males in town A and town E together to total Children in town B and town C together?
A. 5:6   B. 6:7   C. 6:5   D. 4:5   E. 4:3

5) If the total number of females in All the five towns together is 2400 and the number of females in town A, B and D are equal, then find the average number of females in Town C & E ?
A. 294   B. 300   C. 325   D. 320   E. 260

SET 2

Bar graph given below shows import and export of a company in five different years. Read the data carefully and answer the following questions.

import and export in five different years
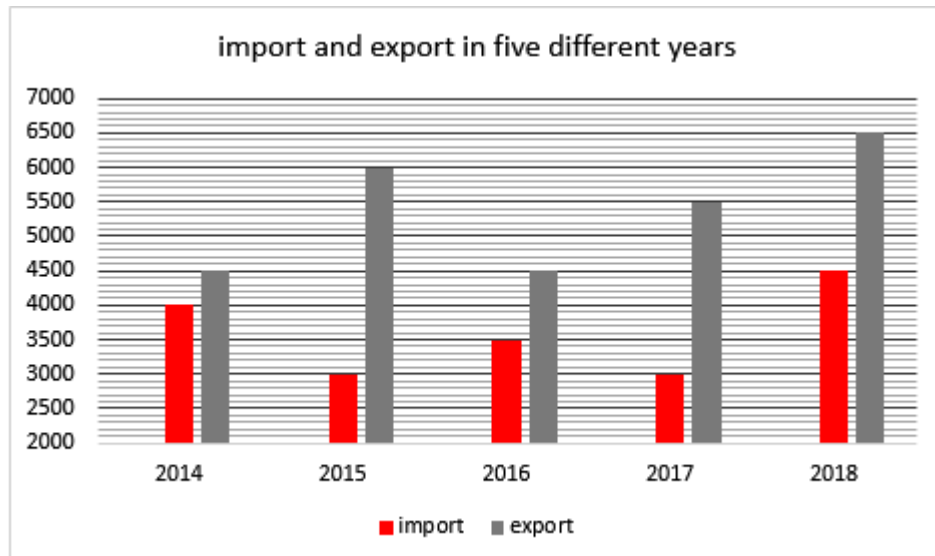
1) Maximum import in any of the given years is how much percent less than maximum export in any of the given year? (right up to 2 decimal places)
A. 20.17%
B. 30.77%
C. 25.67%
D. 16.67%
E. 20.85%

2) What is the ratio of difference between export and import in year 2016 to import in year 2015?
A. 1:2
B. 1:3
C. 2:3
D. 4:5
E. None of these

3) Difference between export and import in year 2014 is what percent of import in year 2016 and 2018 together?
A. 12.5%   B. 25%   C. 9%   D. 16.67%   E. 6.25%

4) What is the average of import in 2014 and 2018 together and export in 2016 and 2017 together?
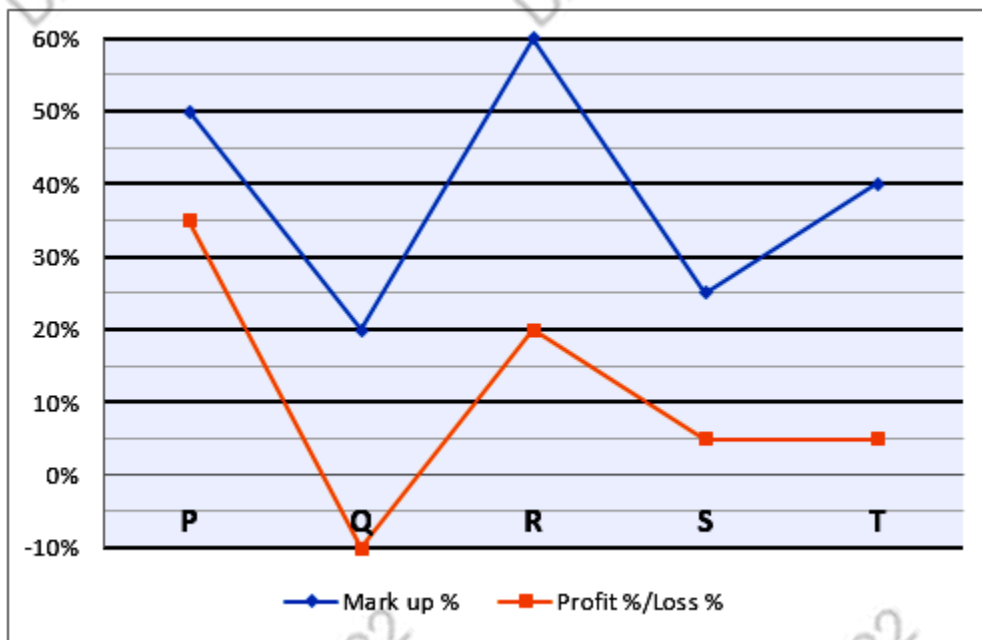A. 7250   B. 9250   C. 8750   D. 6250   E. None of these.

5) What is the difference between decrease percentage of import from year 2014 to 2015 and decrease percentage in export from year 2015 to 2016?
A. 10%   B. 2%   C. 5%   D. 4%   E. 0%

SET 3

Line chart shows the mark-up percentage and profit/loss percentage of 5 different articles (P, Q, R, S & T).

Note: 1. Mark up % of any article $= \dfrac{\text{Marked price of that article} - \text{Cost price of that article}}{\text{Cost price of that article}} \times 100$

2. Profit % of any article $= \dfrac{\text{Selling price of that article} - \text{Cost price of that article}}{\text{Cost price of that article}} \times 100$

3. Loss % of any article $= \dfrac{\text{Cost price of that article} - \text{Selling price of that article}}{\text{Cost price of that article}} \times 100$

1) If selling price of article – R is 100% more than marked price of article – P, then find cost price of article – P is what percent of marked price of article – R.
A. 30%   B. 25%   C. 20%   D. 10%   E. 35%

2) Discount allowed on article – S is what percent more or less than profit earned on article – S?
A. 240%   B. 250%   C. 200%   D. 360%   E. 300%

3) If marked price of article – Q & T together is Rs.1840 and cost price of article – Q is Rs.240 less than selling price of article – T, then find cost price of article – Q & T together.
A. Rs.1000   B. Rs.1100   C. Rs.1300   D. Rs.1400   E. Rs.1200

4) If discount allowed on article – P is Rs.180, then find cost price of article – P is how much less than marked price of article – P?
A. Rs.450   B. Rs.600   C. Rs.400   D. Rs.500   E. Rs.350

5) If ratio of cost price of article – R to that of article – T is 5:4 and cost price of article – R is Rs.750, then find overall profit/loss earned on selling 1 unit of each of article – R & T together.
A. Rs.200   B. Rs.150   C. Rs.160   D. Rs.180   E. Rs.120

SET 1 SOLUTION

1) Number of males in town E $= 8000 \times \frac{10}{100} \times \frac{50}{100} = 400$

Let number of males and females in town C be 3x and 4x respectively.

ATQ,

$3x + 4x = 8000 \times \frac{15}{100} \times (1 - \frac{5}{12})$

$x = 100$

Males in Town C = 300

Males in Town A $= 8000 \times \frac{30}{100} \times \frac{1}{3} = 800$

Required difference = 300 + 800 − 400

= 700

2) Since number of females and children are equal in town E.

So, Number of females or children in town E $= \frac{1}{2} \times 8000 \times \frac{10}{100} \times \frac{50}{100}$

= 200

Now, Number of children in town D = 4 × 200 = 800

Now, Number of females in town D $= 8000 \times \frac{25}{100} \times \frac{30}{100}$

= 600

Required percentage $= \frac{600}{200 + 800} \times 100 = 60\%$

3) Total Numbers of male in all town together = 540 × 5 = 2700

ATQ,

Number males in town A $= 8000 \times \frac{30}{100} \times \frac{1}{3} = 800$

Number males in town E $= 8000 \times \frac{10}{100} \times \frac{1}{2} = 400$

Now, number males in town B, C and D are 2x, x and 2x respectively.

So,

800 + 2x + x + 2x + 400 = 2700

x = 300

required number = 300

4) Total number of males in town A & E together

$= 8000 \times \frac{30}{100} \times \frac{1}{3} + 8000 \times \frac{10}{100} \times \frac{1}{2} = 1200$

Total number of children populations in town B & C together

$= 8000 \times \frac{20}{100} \times \frac{1}{4} + 8000 \times \frac{15}{100} \times \frac{5}{12} = 900$

Required ratio = 4:3

5) Number of females in D $= 8000 \times \frac{25}{100} \times \frac{30}{100} = 600$

So, Number of females in each A and B are same and it is equal to 600.

Required average $= \frac{2400 - 3 \times 600}{2}$

= 300

SET 2 SOLUTION

1) Required percentage $= \frac{6500 - 4500}{6500} \times 100 = 30.77\%$

2) Required ratio $= (4500 - 3500) : 3000$

$= 1000 : 3000$

$= 1 : 3$

3) Required percentage $= \frac{4500 - 3500}{3500 + 4500} \times 100$

$= \frac{500}{8000} \times 100$

$= 6.25\%$

4) Required average

$= \frac{1}{2}[(4000 + 4500) + (4500 + 5500)]$

$= 9250$

5) decrease percentage of import in year

2014 to 2015 $= \frac{4000 - 3000}{4000} \times 100 = 25\%$

Decrease percentage of export in year

2015 to 2016 $= \frac{6000 - 4500}{6000} \times 100 = 25\%$

Required difference = 25% − 25% = 0%

SET 3 SOLUTION

1) Let cost price of article – P and article – R be Rs.100p and Rs.100r respectively.

Selling price of article – R = $\left(100r \times \frac{120}{100}\right)$

= Rs.120r

Marked price of article – P = $\left(100p \times \frac{150}{100}\right)$

= Rs.150p

ATQ,

$\frac{120r}{150p} = \frac{2}{1}$

$\frac{r}{p} = \frac{5}{2}$

Now, let r & p be 5a & 2a respectively.

So, cost price of article – P = 100 × 2a

= Rs.200a

And, marked price of article – R = 100 × 5a × $\frac{160}{100}$

= Rs.800a

Required % = $\frac{200a}{800a} \times 100$

= 25%

2) Let cost price of article – S be Rs.100s

So, marked price of article – S = 100s × $\frac{125}{100}$

= Rs.125s

And, profit earned on article – S = 100s × $\frac{5}{100}$

= Rs.5s

Now, selling price of article – S = 100s × $\frac{105}{100}$

= Rs.105s

And, discount allowed on article – S = 125s − 105s

= Rs.20s

Required % = $\frac{(20s-5s)}{5s} \times 100$

= 300%

3) Let cost price of article – Q and article – T be Rs.100q and Rs.100t respectively.

So, marked price of article – Q = $\left(100q \times \frac{120}{100}\right)$

= Rs.120q

And, marked price of article – T = $\left(100t \times \frac{140}{100}\right)$

= Rs.140t

Now, selling price of article – T = $\left(100t \times \frac{105}{100}\right)$

= Rs.105t

ATQ,

$120q + 140t = 1840$

$6q + 7t = 92$ ...(i)

And, $105t − 100q = 240$

$21t − 20q = 48$ ...(ii)

On solving (i) & (ii):

$t = 8, q = 6$

Required amount = 100(q + t)

= Rs.1400

4) Let cost price of article – P be Rs.100x

So, marked price of article – P = 100x × $\frac{150}{100}$

= Rs.150x

And, selling price of article – P = 100x × $\frac{135}{100}$

= Rs.135x

ATQ,

$150x − 135x = 180$

$x = 12$

Required difference = 150x − 100x

= 50x

= Rs.600

5) Cost price of article – T = 750 × $\frac{4}{5}$

= Rs.600

Required amount = $\left(600 \times \frac{5}{100}\right) + \left(750 \times \frac{20}{100}\right)$

= 30 + 150

= Rs.180

SET 1

Study the information given below and answer the following questions:

In a company, there are total 800 employees and each employee know one or more among three languages Hindi, English and French. 10% of employees know all three languages and 15%, 25% and 20% of employees know only Hindi, only English and only French respectively. 5% of employees know both English and French but not Hindi and the ratio of number of employees who knows both Hindi and English but not French to the number of employees who knows both Hindi and French but not English are 1: 1.

1) The number of employees who knows English is what percentage more or less than the number of employees who knows Hindi?
A 10%   B 6%   C 5%   D 15%   E 3%

2) How many employees knows both English and French together?
A 140   B 80   C 100   D 120   E 240

3) What is the ratio of number of employees who knows exactly one language to the number of employees who knows exactly two languages?
A 3: 2   B 1: 2   C 2: 1   D 2: 3   E 3: 4

4) What is the difference between the number of employees who knows both Hindi and English together and the number of employees who knows French?
A 240   B 180   C 200   D 230   E 210

5) The number of employees who knows French and English is what percentage of the number of employees who knows Hindi and English?
 A 120.50%   B 116.25%   C 114.75%   D 106.25%   E 118.25%

Line graph given below shows number of employees (in thousand) in five different companies in a year and percentage of officer in total employees. Study the following graph carefully and answer the questions below it.

Note - Total employees in each company = officer + workers

Legend: ■ Total employee ■ % of officer
(Y-axis: 0 to 45; X-axis: Company P, Q, R, S, T)

1) If ratio of male workers to female worker in company P and company R is 15:7 and 13:12 respectively, then find the difference between no. of female workers in company P and that of in company R.
A. 1120   B. 2400   C. 1365   D. 1400   E. 1520

2) No. of worker in company R are approximately what percent more than no. of worker in company S.
A. 61%   B. 59%   C. 57%   D. 55%   E. 63%

3) If ratio of male officer to female officer in company T is 23:27. Then find difference between female officer in company T and no. of worker in company Q.
A. 29070   B. 28970   C. 29970   D. 28070   E. 28870

4) If female workers are 7140 in company S and no. of female worker in company S are 78.5% more than male officer in the same company, then find female officers in company S.
A. 3680   B. 3280   C. 3480   D. 3880   E. None of these

5) Find the average number of officers in company P, Q and T are approximately what percent of total workers in company S.
A. 20%   B. 22%   C. 18%   D. 8%   E. 26%

1) A train at a speed of 90 kmph crosses a pole in 25 seconds less than the time it required to cross a bridge 5 times of its length at same speed. Find the length of train.
A. 100 meters
B. 105 meters
C. 120 meters
D. 125 meters
E. None of these

2) Two type of rice Rs.90 per kg and Rs. 40 per kg are mixed in the ratio of 5 :3, then what will be the price per kg of the mixture?
A. Rs 67.25
B. Rs 72.75
C. Rs 75.5
D. Rs 62.25
E. Rs 71.25

3) The diameter of a wheel is 46 cm. how many revolutions it will take to cover 1012 meter?
A. 550 revolution
B. 800 revolution
C. 700 revolution
D. 600 revolution
E. 777 revolution

4) The ratio of income of Sujeet and Puneet is 4 : 3 and that of their expenditures is 7 : 5. Find the income of Sujeet and Puneet, if they save Rs. 400 and Rs. 500 respectively.
A. Rs. 6000, Rs. 4500
B. Rs. 3000, Rs. 1500
C. Rs. 4000, Rs. 3000
D. Rs. 2500, Rs. 2100
E. None of these

5) Arun spent his monthly salary on various items. He spent 15% of his monthly salary on buying clothes. He gave 20% of his monthly salary to Rohan and spent 25% of the remaining amount as rent. After spending the above mentioned amount, he was left with Rs. 19617. Find Arun's monthly salary.
A. Rs. 41,850
B. Rs. 40,240
C. Rs. 38,460
D. Rs. 43,760
E. None of these

SOLUTION
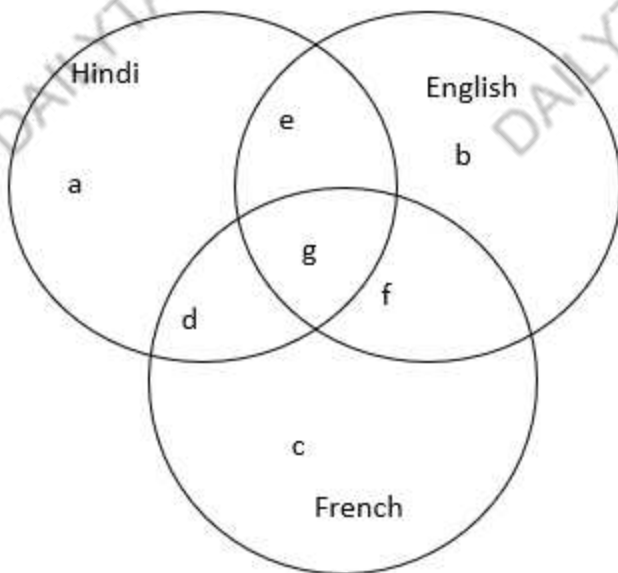
$a + b + c + d + e + f + g = 800$
$g = 10/100 * 800 = 80$
$a = 15/100 * 800 = 120$
$b = 25/100 * 800 = 200$
$c = 20/100 * 800 = 160$
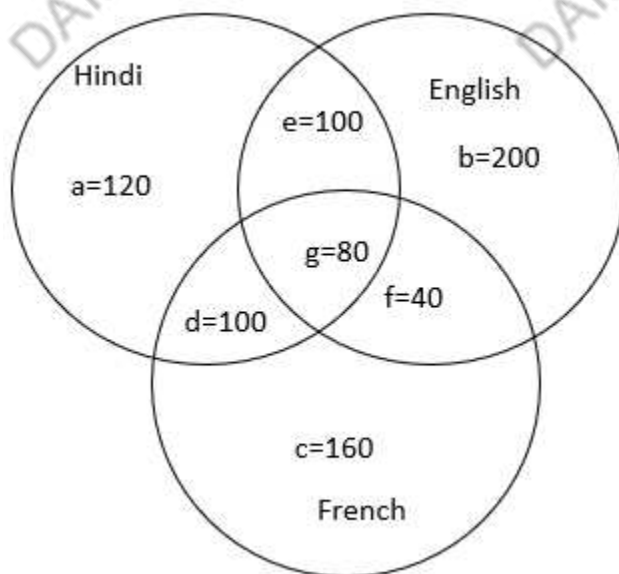$f = 5/100 * 800 = 40$
So, $d + e = 800 - 80 - 120 - 200 - 160 - 40$
$=> d + e = 200$
And, given $d : e = 1 : 1$
Hence, $d = 100$ and $e = 100$

1) The number of employees who knows English = 200 + 100 + 40 + 80 = 420
The number of employees who knows Hindi = 120 + 100 + 100 + 80 = 400
Required percentage = (420 - 400)/400 * 100 = 5%

2) The number of employees knows know both English and French = 40 + 80 = 120

3) Required ratio = (120 + 200 + 160): (100 + 100 + 40) = 480: 240 = 2: 1

4) Required difference = (160 + 40 + 80 + 100) - (100 + 80) = 200

5) The number of employees who knows Hindi and English = 120 + 100 + 100 + 80 + 200 + 40 = 640
The number of employees who knows French and English = 100 + 160 + 80 + 40 + 100 + 200 = 680
So, required percentage = 680/640 * 100 = 106.25%

SET 2 SOLUTION

1) no. of female worker in company P = $40000 \times \frac{88}{100} \times \frac{7}{22} = 11200$

no. of female worker in company R = $35000 \times \frac{75}{100} \times \frac{12}{25} = 12600$

Required difference = $12600 - 11200 = 1400$

2) no. of worker in company R = $35000 \times \frac{75}{100} = 26250$

no. of worker in company S = $24000 \times \frac{68}{100} = 16320$

required percentage = $\frac{26250-16320}{16320} \times 100 \approx 61\%$

3) no. of worker in company Q = $36000 \times \frac{90}{100} = 32400$

no. of female officer in company T = $30000 \times \frac{15}{100} \times \frac{27}{50} = 2430$

Required difference = $32400 - 2430 = 29970$

4) male officer in company S = $\frac{7140}{178.5} \times 100 = 4000$

Number of female officers in company S = $24000 \times \frac{32}{100} - 4000 = 3680$

5) no. of officer in company P = $40000 \times \frac{12}{100} = 4800$

no. of officer in company Q = $36000 \times \frac{10}{100} = 3600$

no. of officer in company T = $30000 \times \frac{15}{100} = 4500$

Average number of officers in P, Q & T = $\frac{4800+3600+4500}{3} = 4300$

no. of worker in company S = $24000 \times \frac{68}{100} = 16320$

required percentage = $\frac{4300}{16320} \times 100 \approx 26\%$

1) Let the length of train be L meter.

ATQ

$$25 = \frac{5L+L}{90 \times \frac{5}{18}} - \frac{L}{90 \times \frac{5}{18}}$$

$$25 = \frac{6L}{25} - \frac{L}{25}$$

$$5L = 625$$

$$L = \frac{625}{5} = 125 \, m$$

2) Let quantity of two type of rice be 5x and 3x respectively.

Total cost = $5x \times 90 + 3x \times 40 = Rs\ 570x$

So, per kg price of sugar = $\frac{570x}{5x+3x} = \frac{570x}{8x} = Rs\ 71.25\ per\ kg$

3) Distance covered by wheel in 1 revolution = $\pi d = \frac{22}{7} \times 46\ cm$

So, total revolution = $\frac{101200 \times 7}{22 \times 46} = 700\ revolution$

4) Let income of Sujeet and Puneet be 4x and 3x.

According to question,

$$\Rightarrow 20x - 2000 = 21x - 3500$$

$$\Rightarrow x = 1500$$

Income of Sujeet = 4 × 1500 = Rs. 6000

Income of Puneet = 3 × 1500 = Rs. 4500

5) Let, Arun's monthly income be Rs. X.

Expenditure on clothes and Rohan = 35%

Remaining amount = $\frac{65}{100} \times X = \frac{13}{20}X$

Remaining amount after expenditure or rent = $\frac{13}{20}X \times \frac{75}{100} = \frac{39}{80}X$

According to the question, $\frac{39}{80}X = 19617$

$$\Rightarrow X = 40240$$

SET 1

Answer the questions based on the information given below.

In a library, books are issued on Monday of every week. Each student returns the issued book either on Monday or on Thursday while a student has to keep the book for minimum 5 days and he could not keep the issued book for more than 12 days.

On first Monday of a month, 60% of the books out of total books, are issued. On second Monday, 75% of the issued books are returned and 80% of the books available are issued again. On third Monday, 75% of the books issued on second Monday are returned and total number of books available for issuance in the library now is 332.

Note: Books are issued in the afternoon while the issued booked are returned in the morning.

1) Total number of books in library is:

A - 500

B - 600

C - 800

D - 700

E – 400

2) Difference between number of books that are not issued on first and second Monday is:

A - 112

B - 82

C - 92

D - 72

E – 102

3) Number of books returned on third Monday is how much percent more/less than number of books returned on second Monday.

A - 12.5%

B - 13.33%

C - 13.5%

D - 13.67%

E - 15.55%

4) Total number of books available for issuance on second Monday is:

A - 320

B - 170

C - 340

D - 360

E – 380

5) Number of books issued in library on second Monday is:

A - 292   B - 272   C - 312   D - 252   E – 232

Set 2

The given bar graph shows the number of female players and percentage of male players out of total players, who participated in five different sports events.

Note: a) Total players who participated in each event = Number of (male + female) players.

b) Sum of number of female players who participated in given five events is 1140.

■ Number of female players who participated
■ Percentage of male players out of total players who participated
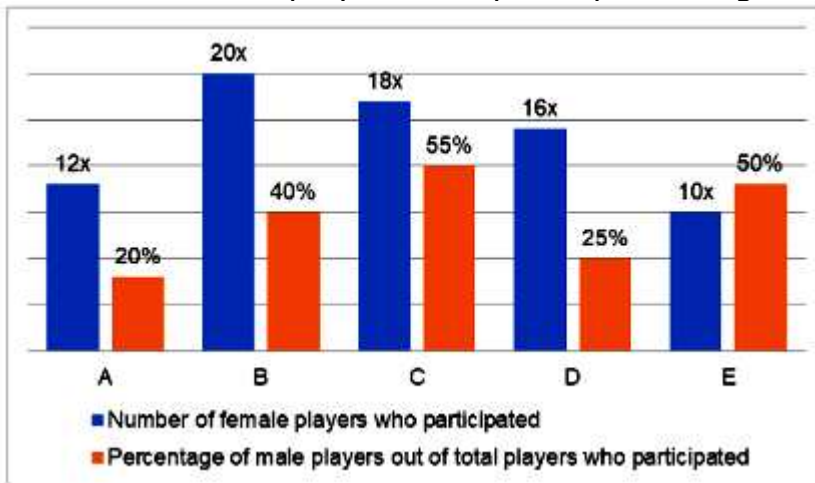
1) Find the ratio of number of female players who participated in event 'A' to total players who participated in event 'D'.
A - 3:16   B - 2:15   C - 9:16   D - 7:18   E - 4:11

2) Find the average number of male players who participated in events 'B' and 'E'.
A – 175   B – 165   C – 180   D – 160   E - 185

3) The number of male players who participated in event 'F' is 120 more than that in 'D'. If total number of players who participated in event 'F' is 25% less than that in 'C', then find the number of female players who participated in event 'F'.
A – 215   B – 320   C – 180   D – 250   E - 200

4) The number of players who participated in events 'A' and 'E', together is how much percent more/less than the number of female players who participated in event 'E'?
A - 240%   B - 150%   C - 180%   D - 200%   E - 250%

5) The ratio of the number of males who participated in events 'M' and 'C' is 15:11, respectively. If the number of males constitutes 60% of total players in the event 'M', then find the number of female players who participated in event 'M'.
A – 320   B – 420   C – 360   D – 300   E - 450

SET 3

The bar chart given below shows the number of students studying in different sections (A, B, C, D, E and F) of Class 12 in DPS and the table below represents the ratio of number of boys to total number of students in each section
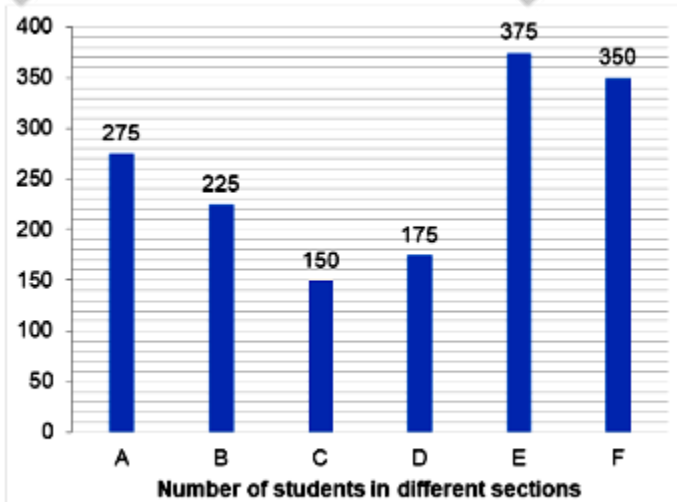
Sections	Boys: Total students
A	9:25
D	2:5
F	3:7
C	1:3
B	4:9
E	38:75

1) What is the total number of girls studying in sections D and F together?
A - 305
B - 310
C - 315
D - 320
E - 325

2) What is the ratio of total number of boys studying in section D to the total number of girls studying in section E?
A - 21:37
B - 37:21
C - 14:37
D - 37:14
E - 37:38

3) What is the average number of students studying in all sections together excluding C section?
A – 275   B – 310   C – 315   D – 280   E – 270

4) By what percent is the total number of girls studying in section A more than the total number of girls studying in section B?
A - 45%
B - 40.8%
C - 51.7%
D - 54.8%
E - 42.5%

5) In section F, 30% of total boys and 24% of total girls got more than 80% marks. Find the total number of students who got more than 80% marks.
A – 86   B – 102   C – 98   D – 93   E - 112

SET 1 SOLUTION

Common Solution
Let total number of books in the library = 100x
On first Monday:
Number of books issued = 0.60 × 100x = 60x
Number of books not issued = 0.40 × 100x = 40x
On second Monday:
Number of books returned = 0.75 × 60x = 45x
Number of books not retuned = 0.25 × 60x = 15x
Total number of books available for issuance = 45x + 40x = 85x
Number of books issued = 0.80 × 85x = 68x
Number of books not issued = 85x − 68x = 17x
On third Monday:
Number of books returned = 0.75 × 68x = 51x
Number of books not retuned = 68x − 15x = 17x
Number of books available for issuance = 51x + 17x + 15x = 83x
So, 83x = 332
Or, x = 4
Total number of books in the library = 100x = 100 × 4 = 400
On first Monday:
Number of books issued = 60x = 60 × 4 = 240
Number of books not issued = 40x = 40 × 4 = 160
On second Monday:
Number of books returned = 45x = 45 × 4 = 180
Number of books not retuned = 15x = 15 × 4 = 60
Total number of books available for issuance = 85x = 85 × 4 = 340
Number of books issued = 68x = 68 × 4 = 272
Number of books not issued = 17x = 17 × 4 = 68
On third Monday:
Number of books returned = 51x = 51 × 4 = 204
Number of books not retuned = 17x = 17 × 4 = 68

1) Total number of books in library = 400
Hence, option e.

2) Desired difference = 160 − 68 = 92
Hence, option c.

3) Desired percentage = [(204 − 180)/180] × 100 = 13.33%
Hence, option b.

4) Number of books available for issuance on second Monday = 340
Hence, option c.

5) Number of books issued in library on second Monday = 272
Hence, option b.

Set 2 solution

According to the question,
$12x + 20x + 18x + 16x + 10x = 1140$
Or, $76x = 1140$
Or, $x = 15$
Therefore,

	Number of female players	Total players	Number of male players
A	$12x = 180$	$180/0.8 = 225$	$225 - 180 = 45$
B	$20x = 300$	$300/0.6 = 500$	$500 - 300 = 200$
C	$18x = 270$	$270/0.45 = 600$	$600 - 270 = 330$
D	$16x = 240$	$240/0.75 = 320$	$320 - 240 = 80$
E	$10x = 150$	$150/0.5 = 300$	$300 - 150 = 150$

1) Required ratio = 180:320 = 9:16
Hence, option c.

2) Required average = (200 + 150)/2 = 175
Hence, option a.

3) Number of male players who participated in event 'F' = 80 + 120 = 200
Total number of players who participated in event 'F' = $0.75 \times 600 = 450$
Therefore, number of female players who participated = 450 – 200 = 250
Hence, option d.

4) Number of players who participated in events 'A' and 'E', together = 225 + 300 = 525
Required percentage = {(525 – 150)/150} × 100 = 250%
Hence, option e

5) Number of male players who participated in event 'M' = $330 \times (15/11) = 450$
Number of female players who participated in event 'M' = $450 \times (0.4/0.6) = 300$
Hence, option d.

SET 3 SOLUTION

1) Solution
Total number of girls studying in D section = 175 × (3/5) = 105
Total number of girls studying in F section = 350 × (4/7) = 200
Required total = 105 + 200 = 305
Hence, option a.

2) Solution
Total number of boys studying in section D = 175 × (2/5) = 70
Total number of girls studying in section E = 375 × (37/75) = 185
Required Ratio = 70:185 = 14:37
Hence, option c.

3) Solution
Average number of students = (275 + 225 + 175 + 375 + 350)/5 = 280
Hence, option d.

4) Solution
Total number of girls studying in section B = 225 × (5/9) = 125
Total number of girls studying in section A = 275 × (16/25) = 176Required
percent = (176 − 125)/125 × 100 = 40.8%
Hence, option b.

5) Solution
Total number of boys studying in F section = 350 × (3/7) = 150
Total number of girls studying in F section = 350 × (4/7) = 200
Required number of students = 30% of 150 + 24% of 200 = 45 + 48 = 93
Hence, option d.

SET 1
Below table shows the number of employees from company A and B working in four different departments.

Department	Company A	Ratio of male to female of company A	Company B	Ratio of male to female of company B
Administrative	---	2: 3	60	---
Finance	44	---	---	6: 5
Operation	---	4: 3	45	---
Marketing	50	3: 2	56	4: 3

Note- Some data is missing in the table

1) If the number of female employees from Administrative and Operation department are 42 and 12 respectively in company A, then what is the average number of employees from these four departments in company A?
 A 50   B 48   C 44   D 45   E None of these

2) What is the difference between the number of female employees from marketing department in company A and Company B?
A 8   B 4   C 6   D 10   E None of these

3) If the total number of employees from operation and Finance in company A and B together is 87 and 99 respectively, then what is the ratio of number of males from finance in company B to the number of males from operation in company A?
A 4: 5   B 5: 4   C 5: 6   D 6: 5   E None of these

4) If the ratio of male to female from administrative and operation in company B is 7: 5 and 4: 5, then what is total number of females from administrative, operation and marketing together in company B?
A 76   B 77   C 74   D 75   E None of these

5) If the number of males from operation department in company A is 20, then the number of employees from Marketing department in both companies is what percentage more or less than the number of employees from operation department in both companies?
A 37.5%   B 32.5%   C 45.5%   D 35.5%   E None of these

SET 2

Study the following information carefully and answer the related questions.

Following information gives the data regarding luxury watches and sports watches sold by five different stores A, B, C, D and E respectively. Luxury watches sold from store B are 40 more than store A and 40 less than store C. Luxury watches sold from store D are 40 more than that from store C and 40 less than that from store E and are equal to 440. Luxury watches and sports watches sold from store C are in the ratio 16: 15 respectively. Total sports watches sold are 500 more than the total luxury watches. 20% of sports watches sold are from store A and 28% of sports watches sold are from store E. the ratio of sports watches sold from store B and D are in the ratio 25: 12 respectively

1) What is the average of luxury watches sold by all five stores?
A 360   B 380   C 420   D 440   E None of these

2) What is the ratio of luxury watches sold by stores D and E together to the sports watches sold by same stores?
A 21: 25   B 22: 25   C 23: 25   D 24: 25   E None of these

3) Sports watches sold by store B are approximately what percent of luxury watches sold by same store?
A 123%   B 136%   C 155%   D 167%   E 174%

4) If 50% of luxury watches from store C are defected and 20% luxury watches from all other stores are defected, how many luxury watches are defected?
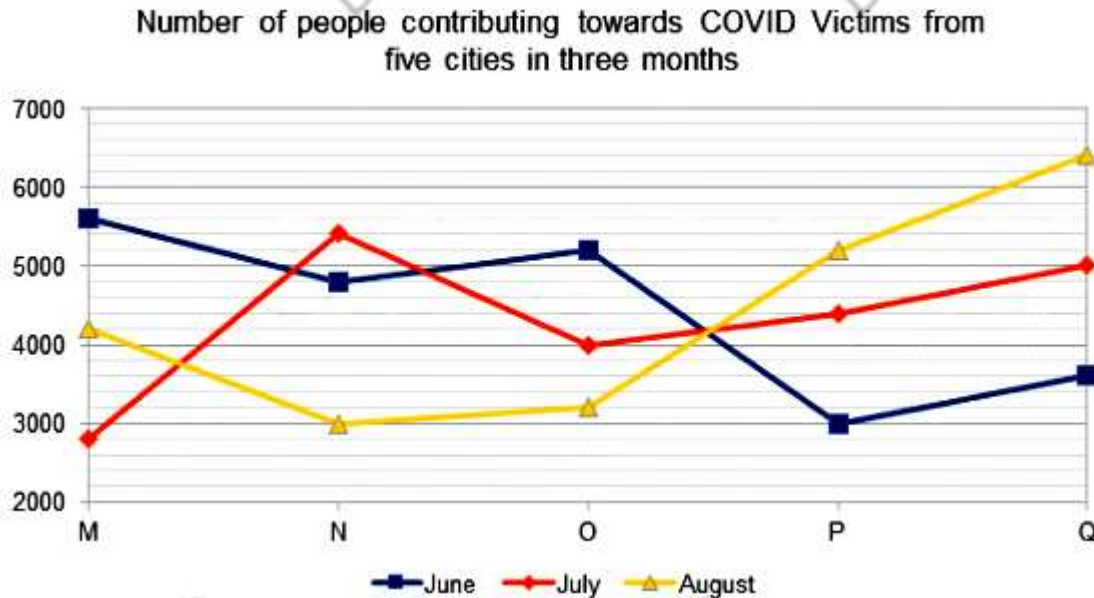A 520   B 495   C 480   D 465   E 448

5) Sports watches and luxury watches sold from stores A, D and E together are approximately what percent of total luxury and sports watches together?
A 65%   B 63%   C 61%   D 69%%   E None of these

Below line graph shows the number of people contributing towards COVID Victims from five cities in three months:

Number of people contributing towards COVID Victims from five cities in three months

—■—June   —✦—July   —△—August

1) What is the ratio of number of people who contributed towards COVID victim from cities N and P together in June to number of people who contributed towards COVID victim from cities M and Q together in August?
A 33: 52   B 39: 53   C 34: 53   D 39: 54   E None of these

2) What is the difference between number of people who contributed towards COVID victim from cities O and P in July and the number of people who contributed towards COVID victim from cities M and N in same month?
A 200   B 300   C 100   D 400   E None of these

3) The number of people who contributed towards COVID victim from cities N and Q in June is what percentage more or less than the number of people who contributed towards COVID victim from cities O and P in August?
A 10%   B 20%   C 30%   D 40%   E None of these

4) What is the average number of people who contributed towards COVID victim from cities M, O and P together in August?
A 4400   B 5200   C 4200   D 5400   E None of these

5) The number of people who contributed towards COVID victim from city P in July and August is what percentage of the number of people who contributed towards COVID victim from city N in June and August?
A 144.40%   B 123.08%   C 142.80%   D 119.30%   E 126.66%

SET 1 SOLUTION

1) Number of employees from administrative in company A = 42 * 5/3 = 70
Number of employees from operation in company A = 12 * 7/3 = 28
Required average = 1/4 * (70 + 44 + 28 + 50) = 48

2) Required difference = 56 * 3/7 - 50 * 2/5 = 4

3) Number of employees from operation in company A = 87 - 45 = 42
Number of employees from finance in company B = 99 - 44 = 55
Required ratio = (55 * 6/11): (42 * 4/7) = 30: 24 = 5: 4

4) Required total female in Company B = 60 * 5/12 + 45 * 5/9 + 56 * 3/7 = 74

5) Total number of employees from operation in company A = 20 * 7/4 = 35
The number of employees from Marketing department in both companies = 50 + 56 = 106
The number of employees from operation department in both companies = 45 + 35 = 80
Required % = (106 - 80)/80 * 100 = 32.5%

SET 2 SOLUTION

1) Luxury watches sold:
D = 440
E = 40 + 440 = 480
C = 440 - 40 = 400
B = 400 - 40 = 360
A = 360 - 40 = 320
Total luxury watches sold = 320 + 360 + 400 + 440 + 480 = 2000
Total sports watches sold = 2000 + 500 = 2500
Sports watches sold:
C = (15/16) x 400 = 375
A = 20% of 2500 = 500
E = 28% of 2500 = 700
B + D = 2500 - 375 - 500 - 700 = 925
B = (25/37) x 925 = 625
D = 925 - 625 = 300
Total luxury watches sold = 2000
Average = 2000/5 = 400

2) Luxury watches sold by stores D and E together = 440 + 480 = 920
Sports watches sold by stores D and E together = 300 + 700 = 1000
Ratio = 920: 1000 = 23: 25

3) Sports watches sold by store B = 625
Luxury watches sold by store B = 360
Percentage = (625/360) x 100 = 174% (approx.)

4) Total defected luxury watches = 50% of 400 + 20% of (2000 - 400) = 520

5) Sports watches and luxury watches sold from stores A, D and E together
= 320 + 440 + 480 + 500 + 300 + 700 = 2740
Total luxury and sports watches = 2000 + 2500 = 4500
Percentage = (2740/4500) x 100 = 61% (approx.)

SET 3 SOLUTION

1) Required ratio = (4800 + 3000): (4200 + 6400) = 39: 53

2) Required difference = (4000 + 4400) - (2800 + 5400) = 200

3) Required percentage = (4800 + 3600 - 3200 - 5200)/(3200 + 5200) * 100 = 0%

4) Required average = (4200 + 3200 + 5200)/3 = 4200

5) Required percentage = (4400 + 5200)/(4800 + 3000) * 100 = 123.08%

SET 1
Answer the questions based on the information given below.

There is different number of employee in five departments (HR, Finance, Marketing, Operations and Production) of a company. The number of female employees in HR department is 25% more than the male employees of same department. The number of male employees in Finance department is twice the same in HR department, and the ratio of male employees in Finance to that in Marketing department is 2:3. Total number of employees in Finance department was 400 out of which 160 were female employees. Number of female employees in marketing department is 140. Ratio of male to female employees in Production department is 5:4. Total number of employees in Production department is 180. Average number of employees in each department was 342. Number of male employees in operation department is 200.

1) Find the average number of male employees in HR, Finance and Marketing departments.

A - 300
B - 150
C - 240
D - 320
E - 280

2) Find the ratio of total number of employees in Production department to the number of female employees in HR department.

A - 4:3
B - 5:4
C - 6:5
D - 7:5
E - None of these

3) The number of female employees in Production department is how much percent more/less than that in Operation department?

A - 50%
B - 20%
C - 80%
D - 70%
E - 40%

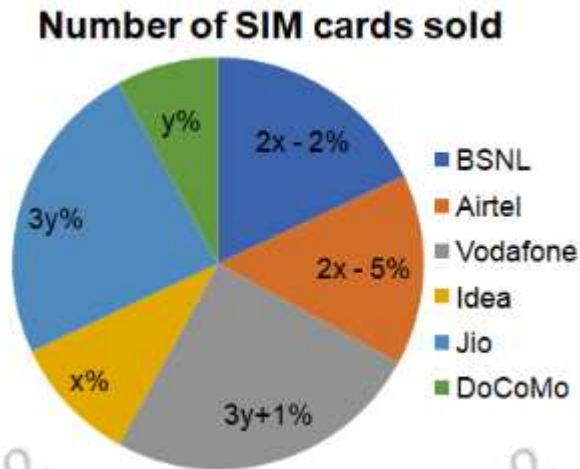**4) Find the difference between total number of employees in Marketing department and that in Operation department.**

A – 180   B – 140   C – 120   D – 210   E - 150

5) 75% of total employees in Finance department are above the age of 30 years out of which 200 are males. Find the number of females in Finance department who are less than equal to the age of 30 years

A – 50   B – 70   C – 80   D – 120   E – 60

SET 2

Different SIM cards were sold by six different service providers on Sunday. The pie chart given below shows the percentage distribution of the number of SIM cards sold by these six service providers on Sunday. Numbers of SIM cards sold by BSNL and Jio on Sunday are in the ratio of 3:4, respectively. Number of SIM cards sold by Airtel on Sunday is 150 less than twice the number of SIM cards sold by DoCoMo on Sunday

Number of SIM cards sold

Pie chart segments: BSNL $2x - 2\%$, Airtel $2x - 5\%$, Vodafone $3y+1\%$, Idea $x\%$, Jio $3y\%$, DoCoMo $y\%$

Legend:
- ■ BSNL
- ■ Airtel
- ■ Vodafone
- ■ Idea
- ■ Jio
- ■ DoCoMo

1) What is the ratio of the number of SIM cards sold by Airtel on Sunday to the number of SIM cards sold by Vodafone on Sunday?

A - 4:7   B - 2:3   C - 3:5   D - 5:7   E - None of these

2) What is the average number of SIM cards sold by BSNL, Idea and DoCoMo on Sunday?

A - 1680   B -1800   C -1720   D - 1920   E - None of these

3) On Sunday, out of the number of SIM cards sold by Idea, 48% are postpaid SIM cards and rest are prepaid SIM cards, while the number of prepaid and postpaid SIM cards sold by DoCoMo are in the ratio of 3:2, respectively. Find the difference between the numbers of prepaid SIM cards sold by Idea and that by DoCoMo on Sunday.

A - 60

B - 80

C - 90

D - 110

E - None of these

4) Number of SIM cards sold by BSNL and Jio together on Sunday is what percent less/more than the number of SIM cards sold by Airtel and Idea together on Sunday?

A - 56%

B - 62%

C - 72%

D - 68%

E - None of thes

The bar graph given below shows the average number of cakes (pound cake + sponge cake) sold and percentage of pound cake sold out of total cake (pound cake + sponge cake) sold, by five different sellers.
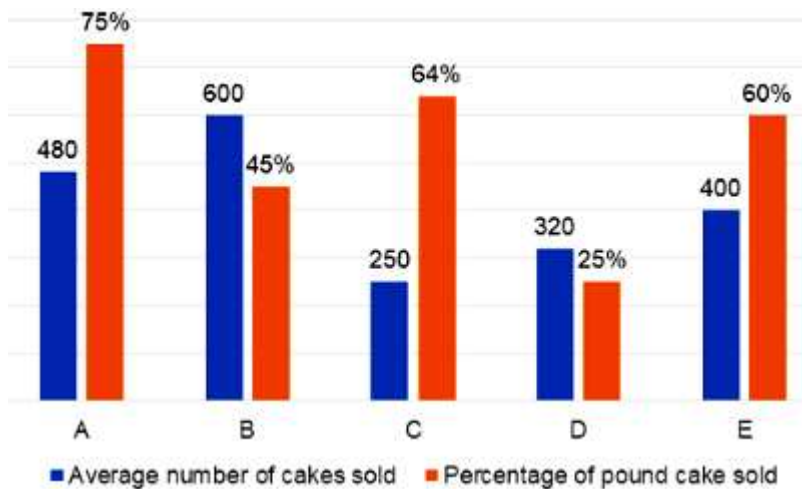
1) The number of sponge cakes sold by seller 'D' is how much percent more/less than number of pound cakes sold by seller 'C'?

A - 45%   B - 50%   C - 60%   D - 40%   E - 75%

2) Find the average number of sponge cakes sold by sellers 'B' and 'C'.

 A - 420   B - 540   C – 480   D - 400   E – 360

3) Sellers 'B' and 'D' sold each pound cake for Rs. 5 and Rs. 10, respectively. Find 40% of amount earned by them after selling all the pound cakes by sellers 'B' and 'D'.

A - Rs. 1920
B - Rs. 1800
C - Rs. 1560
D - Rs. 1600
E - Rs. 1720

4) Find the ratio of number of sponge cakes sold by seller 'A' to number of pound cakes sold by seller 'E'.

A - 1:4
B - 4:7
C - 3:5
D - 1:2
E - 3:4

5) Number of pound cakes sold by seller 'F' is 25% more than that by seller 'A'. If seller 'F' sold 800 more cakes (pound + sponge) than seller 'E', then find the difference between number of sponge cakes sold by sellers 'E' and 'F'.

A - 700   B - 450   C - 800   D - 600   E - None of these

SOLUTION SET 1

Solution

Let the number of male employees in HR department be
'x'

Therefore, number of female employees in HR
department = 1.25x

Number of male employees in Finance department = 2x

Number of male employees in Marketing department = 3x

According to the question,

2x = 400 − 160

Or, x = 240/2 = 120

Let the number of male and female employees in BProduction department be 5y and 4y respectively According to the question,

5y + 4y = 180

Or, y = 20

	Number of male employees	Number of female employees	Total number of employees
HR	x = 120	1.25x = 150	270
Finance	2x = 240	160	400
Marketing	3x = 360	140	360 + 140 = 500
Operation	200	360 − 200 = 160	5 × 342 − (270 + 400 + 500 + 180) = 360
Production	5y = 100	4y = 80	180

1) Required average = (120 + 240 + 360)/3 = 240
Hence, option c.

2) Required ratio = 180:150 = 6:5
Hence, option c.

3) Required percentage = {(160 − 80)/160} × 100 = 50%
Hence, option a.

4) Required difference = 500 − 360 = 140
Hence, option b.

5) Required number of females = 160 − (0.75 × 400 − 200) = 60
Hence, option e.

SOLUTION SET 2

According to question: 2x − 2 + 2x − 5 + 3y + 1 + x 3y + y =100

5x + 7y − 6 = 100

5x + 7y = 106 ------- (i)
Also, (2x − 2)/3y = 3/4
8x − 8 = 9y
8x − 9y = 8 --------- (ii)
Solving (i) and (ii) we get, x = 10, and y = 8
So, the percentage of SIM cards sold by BSNL, Airtel, Vodafone, Idea, Jio and DoCoMo on Sunday is 18%, 15%, 25%, 10%, 24% and 8%, respectively.
Let the total number of SIM cards sold by all the six companies together on Sunday be'z'.
So, according to question: 0.15z = 2 × 0.08z − 150
0.01x = 150, x = 15000
So, the total number of SIM cards sold by all the six companies together on Sunday = 15000

Company	Number of SIM cards sold on Sunday
BSNL	0.18 × 15000 = 2700
Airtel	0.15 × 15000 = 2250
Vodafone	0.25 × 15000 = 3750
Idea	0.10 × 15000 = 1500
Jio	0.24 × 15000 = 3600
DoCoMo	0.08 × 15000 = 1200

1) Desired ratio = 2250: 3750 = 3: 5
Hence, option c.

2) Desired average = (2700 + 1500 + 1200)/3 = 5400/3 = 1800
Hence, option b.

3) Number of prepaid SIM cards sold by Idea on Sunday = 0.52 × 1500 = 780
Number of prepaid SIM cards sold by DoCoMo on Sunday = 3/5 × 1200 = 720
So, the desired difference = 780 − 720 = 60
Hence, option a.

4) Desired percentage = {(18 + 24 − 15 − 10)/(15 + 10)} × 100 = 1700/25 = 68%
Hence, option d.

SET 3 SOLUTION

Seller	Total cakes sold	Number of pound cakes sold	Number of sponge cakes sold
A	480 × 2 = 960	0.75 × 960 = 720	960 – 720 = 240
B	600 × 2 = 1200	0.45 ×1200 = 540	1200 – 540 = 660
C	250 × 2 = 500	0.64 × 500 = 320	500 – 320 = 180
D	320 × 2 = 640	0.25 × 640 = 160	640 – 160 = 480
E	400 × 2 = 800	0.6 × 800 = 480	800 – 480 = 320

1) Required percentage = {(480 – 320)/320} × 100 = 50%
Hence, option b.

2) Required average = (660 + 180)/2 = 420
Hence, option a.

3) Required amount = 0.4 × {(540 × 5) + (160 × 10)} = 0.4 × (2700 + 1600) = Rs. 1720
Hence, option e.

4) Required ratio = 240:480 = 1:2
Hence, option d.

5) Total cakes sold by seller 'F' = 800 + 800 = 1600
Number of pound cakes sold by seller 'F' = 1.25 × 720 = 900
Number of sponge cakes sold by 'F' = 1600 – 900 = 700
Required difference = 700 – 320 = 380
Hence, option e.

SET 1
Answer the questions based on the information given below.
The given data is about number of boys and girls in five different colleges (A, B, C, D and E). Number of boys in college 'B' is 1200 more than the number of girls in college 'C'. The number of girls in college 'A' is 20% more than the number of boys in college 'B'. The ratio of the number of girls in college 'A' to that in 'E' is 3:4. Total number of students in college 'A', C' and 'E' is 5000, 4000 and 8000 respectively. The number of boys in college 'D' is 1200. The sum of the number of girls in college 'B' and 'C' is 2000. Total number of boys in all the five colleges is 11000. Total number of students in each college = Number of (boys + girls) in each college.

1) The number of girls in college 'A' is how much percent more/less than the number of boys in college 'D'?
A - 160%
B - 140%
C - 200%
D - 250%
E - 175%

2) Find the difference between the number of girls in college 'B' and total number of students in college 'D'.
A - 1500
B - 1000
C - 800
D - 1200
E - Cannot be determined

3) If the total number of students in college 'D' is 2000, then find the number of girls in college 'D'.
A - 800
B - 500
C - 400
D - 600
E - 700

4) Find the average number of girls in college 'A', 'C' and 'E'.
A - 2800
B - 4200
C - 3600
D - 3400
E - 3200

5) Find the ratio of the number of boys in college 'A' and 'C' together to the number of boys in college 'E'.
A - 9:8   B - 7:6   C - 6:5   D - 5:4   E - 4:3

SET 2

The given line graph shows the total number of projects started and the number of projects completed on time, in five different states (A, B, C, D and E). The number of projects that were delayed in state 'A' is 180, and number of projects started in state 'E' is 600.

Total number of projects started in each state = number of projects (completed on time + delayed)

24x

25x

20x

16x

15x

18y

12y

14y

20y

10y

A   B   C   D   E

—◆—Total number of projects started

—■—Number of projects completed on time
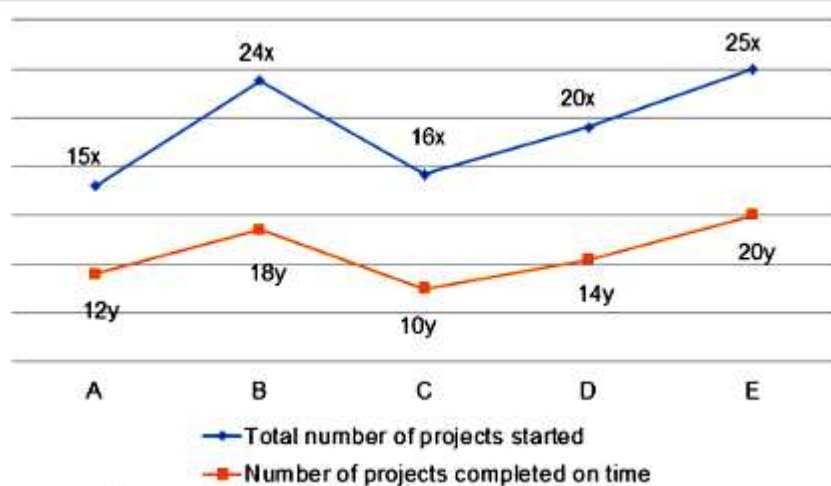
1) Find the ratio of the number of projects delayed in state 'A' to that in state 'D'.

A - 5:8

B - 4:7

C - 2:3

D - 3:5   E - None of these

2) Find the average number of projects that were completed on time in state 'B', 'C' and 'D'.

A – 210   B – 240   C – 220   D – 200   E - 180

3) The number of projects delayed in state 'B' is how much percent more/less than the number of projects delayed in state 'E'.

A - 8%   B - 4%   C - 6%   D - 2%   E - 1.25%

4) Find the difference between the total number of projects started in state 'A' and the number of projects that got completed on time in state 'D'.

A – 150   B – 180   C – 120   D – 100   E – 140

5) If the average cost of each project started in state 'B' is Rs. 2.5 crores, then find the total money spent (in Rs. crores) on projects that got completed on time in state 'B'.

A - 600

B - 585

C - 725

D - 675

E – 420

SET 3

The table given below shows the total number of tourists who went to Patna Zoo on different days of a week, and the ratio of number of male to female tourists

Days	Total number of tourists	Ratio of number of male to female tourists
Monday	1360	9:8
Tuesday	1560	8:5
Wednesday	1040	7:6
Thursday	1920	9:7
Friday	1800	5:7

1) What is the average number of tourists who went to zoo on each of the given day?
A - 1536
B - 1462
C - 1558
D - 1456
E - None of these

2) What is the difference between number of male tourists who went on Monday and that of the same on Tuesday?
A – 220   B – 280   C – 240   D – 200   E - None of these

3) Number of female tourists who went on Thursday is how much percent more/less than number of male tourists who went on Friday?
A - 16%   B - 24%   C - 18%   D - 12%   E - None of these

4) What is the ratio of number of male tourists who went on Wednesday to number of female tourists who went on Monday?
A - 5:6
B - 7:8
C - 5:4
D - 8:9
E - None of these

5) Find the total number of tourists who went on Saturday, if number of male and female tourists who went on Saturday is 40% less and 20% more than the same on Thursday and Tuesday, respectively.
A – 1648   B – 1328   C – 1638   D – 1348   E - None of these

Solution
Let the number of girls in college 'A' and 'E' be 3x and 4x respectively.
Number of boys in college 'B' = 3x/1.2 = 2.5x
Number of girls in college 'C' = (2.5x − 1200)
Number of boys in college 'A' = (5000 − 3x)
Number of boys in college 'C' = 4000 − (2.5x − 1200) = (5200 − 2.5x)
Number of boys in college 'E' = (8000 − 4x)
According to the question,
2.5x + 5000 − 3x + 5200 − 2.5x + 8000 − 4x = 11000 − 1200
Or, 7x = 8400
Or, x = 1200

	Number of boys	Number of girls	Total number of students
A	5000 − 3x = 1400	3x = 3600	5000
B	2.5x = 3000	2000 − 1800 = 200	3200
C	5200 − 2.5x = 2200	2.5x − 1200 = 1800	4000
D	1200	-	-
E	8000 − 4x = 3200	4x = 4800	8000

1) Required percentage = {(3600 − 1200)/1200} × 100 = 200%
Hence, option c.

2) Difference between the number of girls in college 'B' and total number of students in college 'D' cannot be determined.
Hence, option e.

3) Number of girls in college 'D' = 2000 − 1200 = 800
Hence, option a.

4) Required average = (3600 + 1800 + 4800)/3 = 3400
Hence, option d.

5) Required ratio = (1400 + 2200):3200 = 9:8
Hence, option a.

SET 2 SOLUTION

According to the question,
15x − 12y = 180….. (1)
And, 25x = 600…. (2)
On solving equation (1) and (2), we get x = 24 and y = 15
Therefore,

	Total number of projects started	Number of projects completed on time	Number of project: that were delayed
A	15x = 360	12y = 180	360 – 180 = 180
B	24x = 576	18y = 270	576 – 270 = 306
C	16x = 384	10y = 150	384 – 150 = 234
D	20x = 480	14y = 210	480 – 210 = 270
E	25x = 600	20y = 300	600 – 300 = 300

1) Required ratio = 180:270 = 2:3
Hence, option c.

2) Required average = (270 + 150 + 210)/3 = 210
Hence, option a.

3) Required percentage = {(306 − 300)/300} × 100 = 2%
Hence, option d.

4) Required difference = 360 − 210 = 150
Hence, option a.

5) Required cost = 2.5 × 270 = Rs. 675 cores
Hence, option d.

SET 3 SOLUTION

Days	Number of male tourists	Number of female tourists
Monday	9/17 × 1360 = 720	8/17 × 1360 = 640
Tuesday	8/13 × 1560 = 960	5/13 × 1560 = 600
Wednesday	7/13 × 1040 = 560	6/13 × 1040 = 480
Thursday	9/16 × 1920 = 1080	7/16 × 1920 = 840
Friday	5/12 × 1800 = 750	7/12 × 1800 = 1050

1) Desired Average = (1360 + 1560 + 1040 + 1920 + 1800)/5 = 1536
Hence, option a.

2) Desired difference = 960 − 720 = 240
Hence, option c.

3) Desired Percentage = [(840 − 750)/750] × 100 = 12%
Hence, option d.

4) Desired Ratio = 560:640 = 7:8
Hence, option b.

5) Number of tourists on Saturday = 0.6 × 1080 + 1.2 × 600 = 648 + 720 = 1368
Hence, option e.

Directions (1-5): The Line graph shows the number of people (Boys + girls) visited five (A, B, C, D & E) different parks and the number of girls visited out of total people visited these five parks. Read the data carefully and answer the questions.
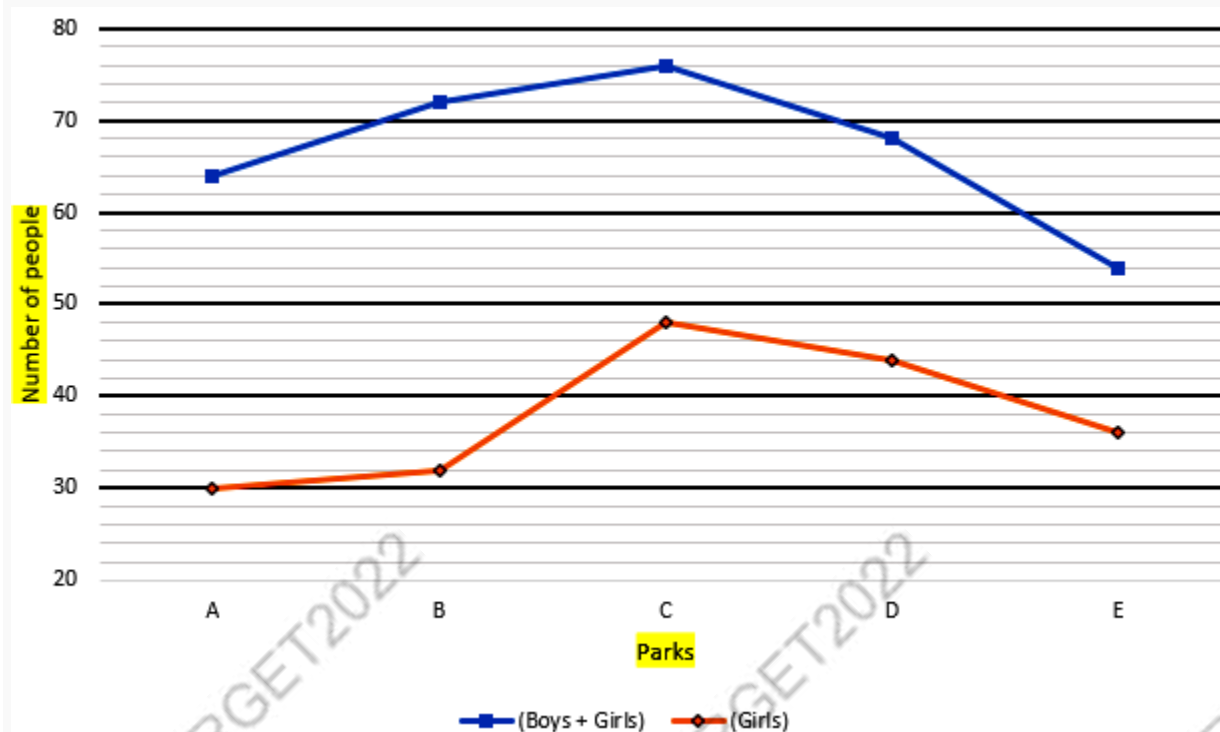
Q1. Find total number of boys visited in park A, B & C together?
(a) 104   (b) 102   (c) 106   (d) 108   (e) 96

Q2. If total number of people visited in park F are 18 more than total number of people visited in park C and D together and out of total people visited in park F, $\frac{4}{9}$ th are girls, then find number of boys visited in park F?
(a) 90
(b) 92
(c) 96
(d) 84
(e) 102

Q3. What percent of girls visited in park A with respect to the total number of people (Boys + Girls) visited that park (approximately)?
(a) 41%   (b) 43%   (c) 47%   (d) 49%   (e) 51%

Q4. If park E charge Rs. 24 for each people (Boys + Girls) who visited the park, then find the total revenue get by park E?
(a) 1166 Rs.   (b) 1296 Rs.   (c) 1248 Rs.   (d) 1268 Rs.   (e) 1284 Rs.

Q5. Total people (Boys + Girls) who visited park B is what percent more than total people (Boys + Girls) who visited park E (Approximate)?
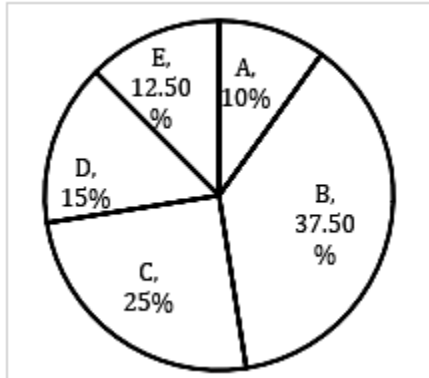(a) 25%   (b) 39%   (c) 43%   (d) 33%   (e) 66%

Directions (6-10): Given below is the pie chart which shows the percentage distribution of females in five cities and table shows the total number of literates (male + female) in these five cities.

Total population of any city = Male + Female
Total males = Literate + Illiterate
Total female = Literate + Illiterate

City	Total literate (Male + Females)
A	55000
B	230000
C	172000
D	99000
E	83000

Q6. If ratio of total literate female to total illiterate female in city A is 5 : 3 and total literate males in city A are 75% of total females of city A, then literate males in city A is what percent of total literate (male + females) of city A.

(a) $54\frac{6}{11}\%$ (b) $51\frac{4}{11}\%$ (c) $53\frac{2}{7}$ (d) $55\frac{3}{7}\%$ (e) $52\frac{2}{11}\%$

Q7. If ratio of literate male to literate female in city C and E are 45 : 41 and 45 : 38 respectively then what is the ratio of literate female of city C to literate female of city E.

(a) 53 : 17 (b) 43 : 17 (c) 41 : 19 (d) 40 : 19 (e) 50 : 21

Q8. If in city B total literate females are $9\frac{1}{11}\%$ more than literate males and ratio of literate male to illiterate male in same city is 11 : 3 then total males in city B are what percent of total literate female of city B.

(a) $119\frac{1}{3}\%$ (b) $117\frac{2}{3}\%$ (c) $115\frac{1}{2}\%$ (d) $111\frac{2}{3}\%$ (e) $116\frac{2}{3}\%$

Q9. Total male and female in city D is 145000 if total illiterate female in city D are equal to total literate female in city D then find the difference in number of literate males and illiterate male in city D

(a) 55000 (b) 53000 (c) 57000 (d) 60000 (e) 50000

Q10. If total females in all six cities is 400000 and in city E total literate female are $84\frac{4}{9}\%$ of total literate males then what is the ratio of literate male in city E to total illiterate females in city E.

(a) 15 : 4 (b) 12 : 5 (c) 7 : 2 (d) 17 : 3 (e) 16 : 5

Directions (11-15): Given bar graph shows the percentage of defective model of article A out of total model manufacture in six months. Read the data carefully and answer the question.
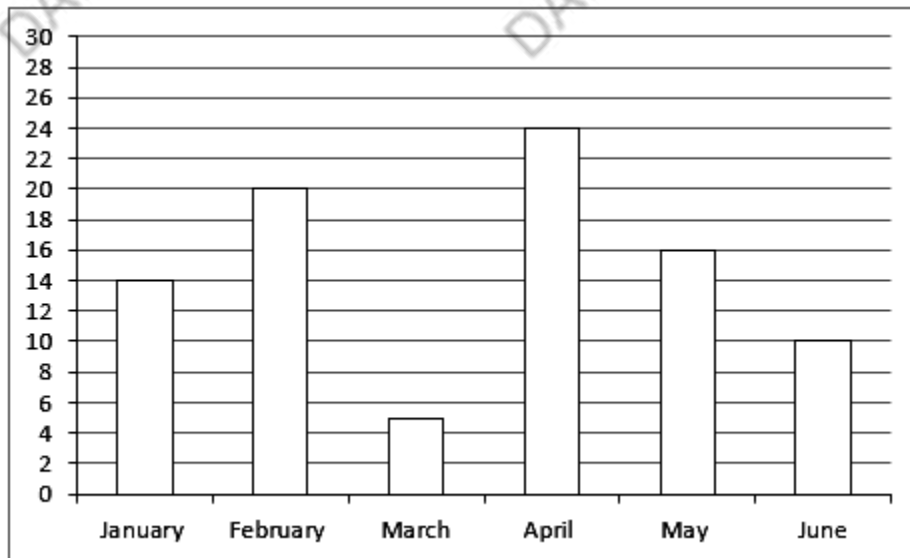
Q11. If non-defective model in January and March are same then total production in January is what percent more than that in March.

(a) $9\frac{21}{43}\%$ (b) $10\frac{20}{43}\%$ (c) $11\frac{20}{41}\%$ (d) $15\frac{21}{43}\%$ (e) $12\frac{20}{23}\%$

Q12. If in each month total production are same then what is the average percentage of defective model.

(a) 12 ⅓%   (b) 13 ⅚%   (c) 14 ⅙%   (d) 11 ⅖%   (e) 14 ⅚%

Q13. Production of model in June is increased by 100 (20%) from the previous month. Then find the percentage change in the number of defective models in June over month of May.
(a) 20%
(b) 33 ⅓%
(c) 16%
(d) 25%
(e) 21%

Q14. Number of defective models in February and May are 480 and 640 respectively, then find the average of Non-defective model in same months.
(a) 2740   (b) 2410   (c) 2520   (d) 2420   (e) 2640

Q15. None defective model in June is how much more than that of in March if total model in June and March is 18000 and total defective model is 1400.
(a) 1200   (b) 1000   (c) 9000   (d) 1400   (e) 4500

S1. Ans(b)   **SET 1 SOLUTION**

Sol.

Required sum $= (64 - 30) + (72 - 32) + (76 - 48)$

$= 34 + 40 + 28 = 102$

S2. Ans(a)

Sol.

Total people visited in park F $= (76 + 68) + 18 = 162$

So, number of boys visited in park F $= 162 \times \frac{5}{9} = 90$

S3. Ans(c)

Sol.

Required percentage $= \frac{30}{64} \times 100 = 46.875 \approx 47\%$

S4. Ans(b)

Sol.

Required revenue $= 24 \times 54 = 1296 \, Rs.$

S5. Ans(d)

Sol.

Required percentage $= \frac{72-54}{54} \times 100$

$= \frac{18}{54} \times 100 = 33\frac{1}{3}\% \approx 33\%$

SET 2 SOLUTION

S6. Ans.(a)

Sol.

Let total female in city A $= x$

So, literate female in city A $= \frac{5}{8}x$

And,

$\frac{3}{4}x = 55000 - \frac{5}{8}x$

$\frac{3}{4}x + \frac{5}{8}x = 55000$

$\frac{11x}{8} = 55000$

$x = 40000$

Required percentage $= \frac{\frac{3}{4}x}{55000} \times 100$

$= \frac{30000}{55000} \times 100$

$= 54\frac{6}{11}\%$

S7. Ans.(c)

Sol.

Let literate men and literate female in city C be 45x and 41x

And literate men and literate female in city E be 45y and 38y

So,

$45x + 41x = 172000$

$x = 2000$

and, $45y + 38y = 83000$

$y = 1000$

Required ratio $= \frac{172000-45\times2000}{83000-45\times1000}$

$= \frac{82000}{38000}$

$= 41 : 19$

S8. Ans.(e)

Sol.

Let total literate male in city B $= x$

So, total literate females in city B $= \frac{12}{11}x$

Total illiterate male in city B $= \frac{x}{11} \times 3$

Total males in city B $= x + \frac{3x}{11}$

$= \frac{14x}{11}$

Required percentage $= \frac{\frac{14}{11}x}{\frac{12}{11}x} \times 100$

$= \frac{7}{6} \times 100$

$= \frac{700}{6}\%$

$= 116\frac{2}{3}\%$

S9. Ans.(b)

Sol.

Total male and female in city D = 145000

Total illiterate male and female in city D = 145000 – 99000 = 46000

Literate male + Literate female = 99000

Illiterate male + Illiterate female = 46000

But illiterate female are equal to literate female in city D

So,

Literate male + x = 99000 ...(i)

Illiterate male + x = 46000 ...(ii)

Subtracting (ii) from (i)

Literate male – Illiterate male = 53000

S10. Ans.(a)

Sol.

Let total literate males in city E = x

So, total literate female in city E = $\frac{38}{45}x$

And $x + \frac{38}{45}x = 83000$

x = 45000

Illiterate female in city E = $\frac{12.5}{100} \times 400000 - \frac{38}{45} \times 45000$

$= \frac{1}{8} \times 400000 - 38000$

= 12000

Required ratio = 45 : 12

= 15 : 4

S11. Ans.(b)

SET 3 SOLUTION

Sol.

Let non-defective model in January and March be 100x

Total production in January = $\frac{100x}{86} \times 100$

Total production in March = $\frac{100x}{95} \times 100$

Required% = $\frac{\frac{100x \times 100}{86}}{\frac{100x \times 100}{95}} \times 100 - 100$

$= \frac{95}{86} \times 100 - 100$

$= \frac{900}{86}\% = 10\frac{20}{43}\%$

S12. Ans.(e)

Sol.

Required average = $\frac{14+20+5+24+16+10}{6}$

$= \frac{89}{6} = 14\frac{5}{6}\%$

S13. Ans.(d)

Sol.

Production in May = 100x

Then in June = 120x

May = 500

June = 600

As → 20x ⇒ 100

Defective ⇒

May = $\frac{16 \times 500}{100} = 80$

June = $\frac{10 \times 600}{100} = 60$

Change % ⇒ $\frac{80-60}{80} \times 100 = 25\%$

S14. Ans.(e)

Sol.

Defective model in Feb = 480

Total model = $\frac{480}{20} \times 100 = 2400$

Defective model in May = 640

Total model = $\frac{640}{16} \times 100 = 4000$

Required average = $\frac{1}{2} \times \left[\frac{2400 \times 80}{100} + \frac{4000 \times 84}{100} \right]$

= 2640

S15. Ans.(d)

Sol.

Let total model in June and March be 100x and 100y respectively

Now,

$100x + 100y = 18000$

$x + y = 180$

and

$10x + 5y = 1400$

$2x + y = 280$

Solving

$x = 100$

$y = 80$

Required difference = 9000 – 7600 = 1400

Set 1

Table given below show the distribution of diaries of two companies (X and Y) sold by five sellers. In this some are work diaries and remaining are school diaries. Study the data carefully and answer the following question.

Sellers	Total Diaries Sold	Work diaries sold (in %)	X : Y (work diaries)	X : Y (school diaries)
A	14000	55%	6 : 5	5 : 4
B	8000	65%	7 : 6	4 : 3
C	5250	40%	5 : 9	11 : 4
D	9000	48%	7 : 5	5 : 8
E	12000	64%	9 : 7	8 : 7

1) Total work diaries of company 'X' sold by A is what percent more than total school diaries of company 'Y' sold by E ?

a. $110\frac{1}{3}\%$ b. $108\frac{1}{3}\%$ c. $106\frac{2}{3}\%$ d. $112\frac{1}{3}\%$ e. $118\frac{1}{3}\%$

2) Find the difference between the number of work diaries of company 'X' sold by B and C together to the number of school diaries of same company sold C and D together.

a. 480   b. 540   c. 450   d. 560   e. 520

3) Total work diaries sold by A, B together of company Y is approximately what percent more than the total school diaries sold by E, D all together of company 'X'.

a. 51%   b. 48%   c. 37%   d. 41%   e. 44%

4) Average number of school diaries of company 'X' sold by A and B together is how much less than average number of work diaries of company 'Y' sold by D and E together?

a. 60
b. 15
c. 30
d. 45
e. 75

5) If B sold 40% defective work diary and 60% defective school diaries then what is the total number of non-defective diary sold by B.

a. 4240
b. 4430
c. 3680
d. 3880
e. 4260

Given below are two-line graphs, first line graph shows the percentage of voters who polled votes from five different villages in the elections held in year 2016. 2nd line graph show the percentage of valid votes polled out of votes polled in these villages.

Note → Total voters = voters polled votes + voters who do not polled

Total poled votes = valid votes polled + invalid votes polled

1) If difference between the votes polled and valid votes polled from village C is 3740 and sum of votes polled and invalid votes polled from village D is 9450 then find the total voters from village C and D together

A. 35500   B. 36000   C. 33000   D. 32000   E. 34000

2) If ratio of total voters from village E to village B is 7 : 9 and ratio of males to female in the invalid votes of E and village B is 4 : 3 and 3 :2 respectively then females who cast invalid votes from village E are what percent of males, who cast invalid votes from village B (approximately)

A. 96%

B. 88%

C. 80%

D. 75%

E. 82%

3) In village A only two contestants are participated in the election and winner got $52\frac{1}{2}\%$ of the total valid votes and won by 390 more votes than another contestant. Find the total voters in village A.

A. 13,500   B. 12,000   C. 15,000   D. 14,000   E. 10,000

4) In village D, if it was found that percentage of votes polled which are valid is 80% instead of 95% (as given in line graph) then total valid votes are decreased by 1350. If ratio of total voter from village D to village E is 6 : 7 then, find total valid votes polled in village E

A. 11305   B. 11200   C. 10800   D. 9500   E. 10980

5) If total voters in village A is 15000 in which 60% are males and ratio of males to females in total valid votes for same village is 9 : 13, then how many females are there who did not polled the votes ?

A. 870   B. 1420   C. 1320   D. Can't be determined   E. 2200

1) In an exam A, two students P and Q score 55 as average marks. In exam B, P got 20% more marks and Q got 20% less marks as compare to exam A. Total marks obtained by both in exam B is four less than total marks obtained by both in exam A. what will be difference between marks of P and Q in exam 'B'

A. 15
B. 12
C. 8
D. 5
E. 2

2) Rajat have some money in his hand. He invested 20% of the money in scheme 'A' for 4 year at 6% p.a., 30% of the amount in scheme 'B' for 6 year at 12% p.a., remaining in scheme 'C' 2 year at 15% p.a. If total amount Rajat received from scheme 'A', 'B' and 'C' is 11,355, then find the difference of sum invested in scheme 'B' and scheme 'A'.

A. 1800
B. 1500
C. 1200
D. 750
E. 270

3) Satish can complete a piece of work in 16 days which Arun can destroy in 6 days. Satish has worked for 12 days, during the last 4 days of which Arun has been destroying. How many days must Satish now work alone to complete the remaining work?

A. 6 days

B. $7\frac{2}{3}$ days

C. 5 days

D. $6\frac{2}{3}$ days

E. None of these

4) X, Y, Z enter into partnership with capital contribution Rs. 50000, 20000 and 30000 respectively X is working partner of get 20% of profit for managing the business. The remaining profit is distributed in the respect of capital. At the end of a year X gets Rs. 300 more than Y and Z then total profit is ?
A. Rs. 1200
B. Rs. 1700
C. Rs. 2200
D. Rs. 1500
E. None of these

5) If sum of upstream and downstream speed of boat is 72 km/hr. and if the boat travels 105 km upstream in 3 hours 30 min. then find the time taken to travel 126 km downstream
A. 3 hours
B. 3 hours 20 min
C. 2 hours
D. 2 hours 32 min
E. None of these

SET 1 SOLUTION

1) Work diaries of company 'X' sold by A
$$= 14000 \times \frac{55}{100} \times \frac{6}{11}$$
$$= 4200$$
School diaries of company 'Y' sold by E
$$= 12000 \times \frac{36}{100} \times \frac{7}{15}$$
$$= 2016$$
Required percentage
$$= \frac{4200 - 2016}{2016} \times 100 = 108\frac{1}{3}\%$$

2) Work diaries of company 'X' sold by B and C together
$$= 8000 \times \frac{65}{100} \times \frac{7}{13} + 5250 \times \frac{40}{100} \times \frac{5}{14}$$
$$= 2800 + 750$$
$$= 3550$$
School diaries of company 'X' sold C and D together
$$= 5250 \times \frac{60}{100} \times \frac{11}{15} + 9000 \times \frac{52}{100} \times \frac{5}{13}$$
$$= 2310 + 1800 = 4110$$
Required difference = 4110 – 3550 = 560

3) Total work diaries sold by A, B together of company 'Y'
$$= 14000 \times \frac{55}{100} \times \frac{5}{11} + 8000 \times \frac{65}{100} \times \frac{6}{13}$$
$$= 3500 + 2400 = 5900$$
Total school diaries sold by E and D together of company X
$$= 9000 \times \frac{52}{100} \times \frac{5}{13} + 12000 \times \frac{36}{100} \times \frac{8}{15}$$
$$= 2304 + 1800 = 4104$$
Required percentage
$$= \frac{5900 - 4104}{4104} \times 100$$
$$= 43.76\% \simeq 44\%$$

4) School diaries of company 'X' sold by A and B together
$$= 14000 \times \frac{45}{100} \times \frac{5}{9} + 8000 \times \frac{35}{100} \times \frac{4}{7}$$
$$= 3500 + 1600 = 5100$$
Work diaries of company 'Y' sold by D and E together
$$= 9000 \times \frac{48}{100} \times \frac{5}{12} + 12000 \times \frac{64}{100} \times \frac{7}{16}$$
$$= 1800 + 3360$$
$$= 5160$$
Required difference
$$= \frac{5160 - 5100}{2} = 30$$

5) Required value
$$= 8000 \times \frac{65}{100} \times \frac{60}{100} + 8000 \times \frac{35}{100} \times \frac{40}{100}$$
$$= 3120 + 1120$$
$$= 4240$$

1) Let total voter of village C = x
And total voter of village D = y

$$\frac{85}{100}x - \frac{85}{100}x \times \frac{80}{100} = 3740$$

$$\frac{17}{20}x\left(1 - \frac{4}{5}\right) = 3740$$

x = 22000

$$\frac{75}{100}y + \frac{75}{100}y \times \frac{5}{100}y = 9450$$

$$\frac{3}{4}y\left(1 + \frac{1}{20}\right) = 9450$$

y = 12000
Required sum = 12000 + 22000 = 34000

3) Let total voters in A = 10000x
According to question
Total valid votes in A = 5200 x

$$\frac{5}{100} \times 5200x = 390$$

$260x = 390$

$$x = \frac{3}{2}$$

total voters = 15000

2) Let total voters from village E = 70000x
And total voters from village B = 90000x
Voter polled in E = 66,500x
Invalid votes in E = 9975x
Invalid votes cast by females in village E

$$= \frac{3}{7} \times 9975x = 4275x$$

Votes polled in B = 900x × 90 = 81000 x
Invalid voters in B = 810x × 10 = 8100x
Males who cast invalid votes in B

$$= \frac{3}{5} \times 8100 \, x$$

$= 4860 \, x$

Required percentage

$$= \frac{4275x}{4860x} \times 100$$

$\approx 88\%$

4) Let total polled votes = x
So

$$\frac{15}{100}x = 1350$$

x = 9000
Total voters from village D

$$= 9000 \times \frac{100}{75}$$

$= 12000$
Total voters in E

$$= \frac{12000}{6} \times 7 = 14000$$

Total valid votes polled in E

$$= 140 \times 95 \times \frac{85}{100} = 11,305$$

5) Since we cannot determine number of males and females who vote so value cannot be determined.

1) Let score of P in exam-A = x
Score of Q in exam-A = y
ATQ,
x + y = 55 × 2 = 110 ...(i)
1.2x + 0.8y = 106 ...(ii)
On solving (i) and (ii)
x = 45, y = 65
Desired difference = 45 × 1.2 – 65 × 0.8
= 54 – 52 = 2

3)

efficiency 3 /48\ 8
days → 16   6
      Satish   Arun
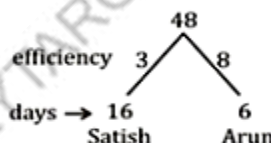
Satish worked for 12 days = 12 × 3 = 36 units
Arun destroys = 8 × 4 = 32 units
Now work left after destroying by Arun = 36 – 32 = 4 units
Now Satish will do = 48 – 4 = 44 units
A completes remaining work in = $\frac{44}{3}$ = $14\frac{2}{3}$ days.

2) Let the amount Rajat have = 100
ATQ,

$$100 + \frac{20 \times 4 \times 6}{100} + \frac{30 \times 6 \times 12}{100} + \frac{50 \times 2 \times 15}{100} = 11,355$$

151.4 = 11355
⇒ 100 = 7500

Required difference = $\dfrac{7500[30 - 20]}{100}$

= 750

4) Ratio of investment of X, Y and Z.
= 50 : 25 : 30 = 10 : 4 : 6
Let total profit be 100%
after 20% given to X

Value of 1 unit = $\dfrac{80\%}{20}$ = 4%

(20 + 10 × 4 – (6+4) × 4)% total profit = 300
∴ total profit = Rs. 1500

5) Let speed of boat in still water = x km/hr
And speed of current = y km/hr
ATQ,
x – y + x + y = 72
2x = 72
x = 36 km/hr

and x – y = $\dfrac{105}{3.5}$ = 30 km/hr
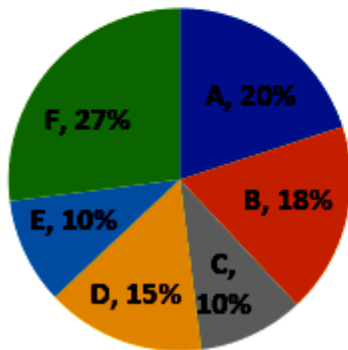
y = 6 km/hr

Downstream = x + y = 42 km/hr

x + y = $\dfrac{126}{t}$

t = $\dfrac{126}{42}$ = 3 hours.

Pie chart shows the percentage population of 6 different towns and table shows the ratio of male to female in these 6 towns in 2000.
Total population of 6 towns = 25000

Percentage Distribution of Population

Towns	Male : Female
A	13 : 12
B	7 : 2
C	27 : 23
D	7 : 8
E	19 : 6
F	7 : 11

1) If the male population of town B in 2001 increased by $14\frac{3}{7}$% from the previous year and female population of town B in 2001 increased by $\frac{200}{5}$ % from the previous year, then find the percentage (approximately) of females in town B in 2001?
    A) 24%   B) 26%   C) 30%   D)28%   E) 23%

2) Which town has the highest female population?
    A. Town D
    B. Town E
    C. Town F
    D. Town A
    E. Town B

3) If during the earthquake one-fifth of males and 30% females registered for voluntary work in town B, then find the ratio of females to males registered for voluntary work.
A) 7 : 3
B) 2 : 5
C) 3 : 4
D) 3 : 7
E)None of these

4) What is the difference of male population and female population in towns B and C together?
A) 2650   B) 2600   C) 2675   D) 2700   E) None of these

5) What is the ratio of male population to the female population of towns A and E together?
A) 2 : 3
B) 4 : 5   C) 2 : 7
D) 7 : 8   E) None of these

Direction: Answer the questions based on the information given below:

There are seven pipes connected to a tank out of which four are inlet pipes i.e. A, C, E and F and three are outlet pipes i.e. B, D and G. Pipes B and E together can fill the empty tank in 90 hours. Pipe A is 50% more efficient than pipe D. Pipes E and F together can fill the empty tank in 36 hours. Pipe E is 10% less efficient than Pipe C. Pipe B
and G together can empty the full tank in 36 hours. Pipe A and D together can fill the empty tank in 216 hours. Pipes B and F together can fill the empty tank in 180 hours.

1) What is the time taken by all the inlet pipes to fill the tank completely?
A. 16 hours
B. 16.6 hours
C. 17 hours
D. 17.6 hours
E. None of these

2). In how many hours, pipes A and F together can fill the tank?
A. 42 hours
B. 36 hours
C. 40 hours
D. 35 hours
E. 45 hours

3). If all the outlet pipes are opened together, then find the time taken by them to empty the full tank.
A. 32 hours
B. 27 hours
C. 25 hours
D. 30 hours
E. 24 hours

4). What is the time taken by pipes B, C and D together to fill the empty tank?
A. 240 hours B. 250 hours
C. 256 hours D. 270 hours
E. 275 hours

5). If the pipes D and E are used as inlet pipes and A and C as outlet pipes and their respective efficiencies remains the same, then find the approximate time required to fill the empty tank and empty the filled tank respectively?
A. 31 hours, 31 hours
B. 39 hours, 39 hours
C. 39 hours, 31 hours
D. 31 hours, 39 hours
E. 41 hours, 48 hours

SOLUTION SET 1

1 Solution:

Total population of town B in 2000 = $25000 \times \frac{18}{100} = 4500$

Total male population of town B in 2000 = $4500 \times \frac{7}{9} = 3500$
Total female population of town B in 2000 = $4500 - 3500 = 1000$

Total male population of town B in 2001 = $3500 \times (1 + \frac{101}{700})$

= $35 \times \frac{801}{7} = 4005$

Total female population of town B in 2001 = $1000 \times (1 + \frac{2}{5})$

= $1000 \times \frac{7}{5} = 1400$
Total population of town B in 2001 = $4005 + 1400 = 5405$

Required percent = $\frac{1400}{5405} \times 100 \approx 26\%$

2) Solution:

Total population of town A = $25000 \times \frac{20}{100} = 5000$

Total female population of town A = $5000 \times \frac{12}{25} = 2400$

Total population of town B = $25000 \times \frac{18}{100} = 4500$

Total female population of town B = $4500 \times \frac{2}{9} = 1000$

Total population of town C = $25000 \times \frac{10}{100} = 2500$

Total female population of town C = $2500 \times \frac{23}{50} = 1150$

Total population of town D = $25000 \times \frac{15}{100} = 3750$

Total female population of town D = $3750 \times \frac{8}{15} = 2000$

Total population of town E = $25000 \times \frac{10}{100} = 2500$

Total female population of town E = $2500 \times \frac{6}{25} = 600$

Total population of town F = $25000 \times \frac{27}{100} = 6750$

Total female population of town F = $6750 \times \frac{11}{18} = 4125$

3) Solution:

Total population of town B in 2000 = $25000 \times \frac{18}{100} = 4500$

Total male population of town B in 2000 = $4500 \times \frac{7}{9} = 3500$
Total female population of town B in 2000= $4500 - 3500 = 1000$

Males registered for voluntary work during earthquake in town B = $3500 \times \frac{1}{5} = 700$

Females registered for voluntary work during earthquake in town B = $1000 \times \dfrac{30}{100} = 300$

Required ratio = $\dfrac{300}{700} = \dfrac{3}{7}$

4) Solution:

Total population of town B = $25000 \times \dfrac{18}{100} = 4500$

Total male population of town B = $4500 \times \dfrac{7}{9} = 3500$

Total female population of town B = $4500 - 3500 = 1000$

Total population of town C = $25000 \times \dfrac{10}{100} = 2500$

Total male population of town B = $2500 \times \dfrac{27}{50} = 1350$

Total female population of town B = $2500 - 1350 = 1150$

Total male population in town B and town C together = $3500 + 1350 = 4850$

Total female population in town B and town C together = $1000 + 1150 = 2150$

Required difference = $4850 - 2150 = 2700$

5) Solution:

Total population of town A = $25000 \times \dfrac{20}{100} = 5000$

Total male population of town A = $5000 \times \dfrac{13}{25} = 2600$

Total female population of town A = $5000 - 2600 = 2400$

Total population of town E = $25000 \times \dfrac{10}{100} = 2500$

Total male population of town E = $2500 \times \dfrac{19}{25} = 1900$

Total female population of town E = $2500 - 1900 = 600$

Total male population of town A and town E together = $2600 + 1900 = 4500$

Total female population of town A and town E together = $2400 + 600 = 3000$

Required ratio = $\dfrac{4500}{3000} = \dfrac{3}{2}$

SET 2 SOLUTION

1) Solution:

Let the capacity of the tank be LCM of (90, 216, 36 and 180) = 1080 litres

Amount of water filled by pipes B and E together in one hour = $\dfrac{1080}{90}$ = 12 litres

Amount of water filled by pipes F and E together in one hour = $\dfrac{1080}{36}$ = 30 litres

Amount of water filled by pipes B and F together in one hour = $\dfrac{1080}{180}$ = 6 litres

Amount of water filled by pipes B, F and E together in one hour = $\dfrac{12 + 30 + 6}{2}$ = 24 litres

Amount of water filled by F in one hour = 24 – 12 = 12 litres

Amount of water filled by E in one hour = 30 – 12 = 18 litres

Pipe E is 10% less efficient than C

And the amount of water filled by A, C, E and F in one hour = 15 + 12 + 18 + 20 = 65 litres

Time taken by pipes A, C, E and F together to fill the empty tank = $\dfrac{1080}{65} = 16.6 \text{ hours}$
So option (b) is the correct answer.

2) Amount of water filled by pipes A and F together in one hour = 12 + 15 = 27 litres
Time taken by pipes A and F together to fill the empty tank =
So option (c) is the correct answer.

3) So, the amount of water filled by D in one hour = 10 litres
Amount of water emptied by pipes B, D and G together in one hour = 10 + 30 = 40 litres
So, the time taken by pipes B, D and G together to empty the full tank =
So option (b) is the correct answer.

4) So, the amount of water filled by D in one hour = 10 litres
Amount of water filled by pipes B, C and D together in one hour = 20 − 10 − 6 = 4 litres
Time taken by pipes B, C and D together to fill the empty tank =
So option (d) is the correct answer.

5) Amount of water taken out by A and C = 35 litres
Therefore, time required to empty the filled tank =
Also, the amount of water filled by D and E in one hour = 28 litres
Therefore, time required to fill the empty tank =
So option (c) is the correct answer.

SET 1

The below information is given regarding the number of people who uses taxi services either Uber or Ola or Rapido. Total 800 people from a colony uses taxi services (Uber, Ola and Rapido) each person can use only one taxi service or more than one. 16.5% of total people use all three taxi services, 22.5% and 15% of total people use only Uber and only Rapido respectively. The number of people who uses Uber and Rapido but not Ola is 75% of the number of people who use uber and Ola but not Rapido and the number of people who uses Ola and Rapido but not Uber is 6 less than 50% of the number of people who uses all three taxi services. The number of people who uses both Uber and Rapido but not Ola is 40% of the number of people who uses only Uber

1) The number of people who uses only Uber is what percentage more or less than the number of people who uses only Ola?
A 42.57%
B 57.42%
C 42.71%
D 14.28%
E 28.57%

2) What is the ratio of number of people who uses both Uber and Ola to the number of people who uses both Ola and Rapido?
A 17: 16
B 18: 17
C 19: 14
D 19: 16
E 19: 18

3) How many people use exactly two taxi services?
A 218
B 212
C 228
D 226
E 224

4) The number of people who use Uber is what percentage of the number of people who uses Rapido?
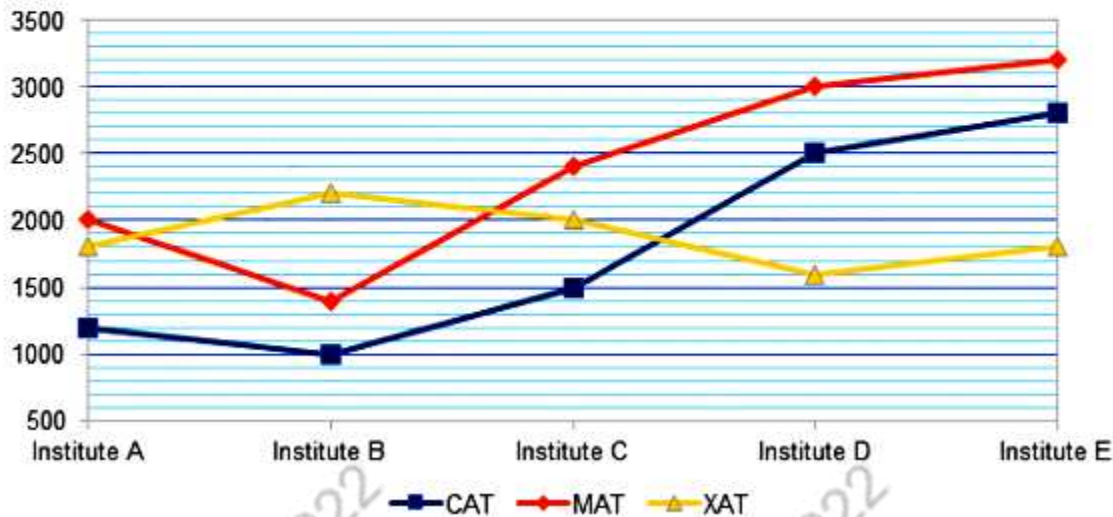A 145%
B 135%
C 120%
D 125%
E 130%

5) How many people uses only one taxi services?
A 450
B 420
C 430
D 440
E 460

Below line graph shows the number of students who are preparing for CAT, MAT, XAT exams from five coaching Institute:

The number of students who are preparing for CAT, MAT, XAT exams

1) **What is the average number of students who are preparing for MAT from Institute A, B, D and E together?**
A 2400   B 2200   C 2000   D 2500   E 2600

2) **What is the ratio of number of students who are preparing for CAT from B and C together to the number of students who are preparing for XAT from A and E together?**
A 5: 6   B 5: 4   C 25: 36   D 25: 32   E None of these

3) **The number of students who are preparing for MAT from A and C together is what percentage of the number of students who are preparing for XAT from B and D together?**
A 115.78%   B 112.58%   C 142.29%   D 132.49%   E 117.38%

4) **What is the difference between the number of students who are preparing for CAT from A and D together and the number of students who are preparing for MAT from B and E together?**
A 900   B 800   C 700   D 1100   E None of these

5) **The number of students who are preparing for XAT from C is what percentage more or less than the number of students who are preparing for CAT from E?**
A 34.69%   B 42.49%   C 28.57%   D 14.28%   E 57.42%

ARITHMETIC WP

1) A shopkeeper prepared a mixture by mixing sesame oil and jasmine oil in two bottles in the ratio 5: 12 and 3: 4respectively. If equal quantities of mixture of oils are mixed to form a third mixture of sesame oil and jasmine oil, then what is the ratio of sesame oil and jasmine oil in third bottle?
A 44: 79
B 42: 73
C 43: 77
D 44: 75
E 43: 76

2) A sum of money was invested at simple interest at some rate of interest(r) per annum for 3 years. If the sum was invested at (r+4)% rate of interest for the same period, interest had fetched Rs. 96 more. What is the sum of money?
A Rs. 830
B Rs. 800
C Rs. 850
D Rs. 700
E None of these

3) The average age of 50 servants in my farm house is 28 years, where 3/5 servants are ladies and the ratio of average age of men to women 5: 6. The average age of female servants is:
A 30 years
B 35 years
C 40 years
D 45 years
E 60 years

**4) The time taken by a boat to go 60 km downstream is 16(2/3)% less than that taken by the boat to go 60 km in still water. If the boat goes 12 km downstream in an hour, then find the speed of the boat in still water?**
A 15 km/h
B 20 km/h
C 10 km/h
D 12 km/h
E 16 km/h

5) After five years Mohit's age is 25% of Shashi's age three years ago and sum of age of Shashi and Prabha is 71 years. If Prabha is 7 years younger than Mohit, then what is the present age of Mohit?
A 14 years
B 13 years
C 12 years
D 11 years
E 15 years

SOLUTION SET 1
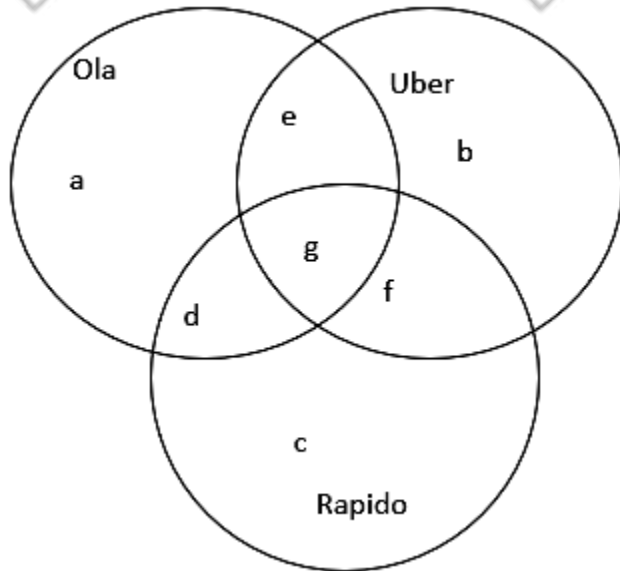
$a + b + c + d + e + f + g = 800$

$g = 16.5/100 * 800 = 132$

$b = 22.5/100 * 800 = 180$

$c = 15/100 * 800 = 120$

$d = 50/100 * 132 - 6 = 60$

$f = 40/100 * 180 = 72$

$f = 75/100 * e$

$=> 72 = 75/100 * e$

$=> e = 96$

So, $a = 800 - 132 - 180 - 120 - 60 - 72 - 96 = 140$

Required percentage = $(180 - 140)/140 * 100 = 28.57\%$

2) Required ratio = $(96 + 132): (132 + 60) = 228: 192 = 19: 16$

3) Required total = $96 + 72 + 60 = 228$

4) The number of people who use Uber = $180 + 96 + 72 + 132 = 480$

The number of people who use Rapido = $120 + 60 + 132 + 72 = 384$

So, required % = $480/384 * 100 = 125\%$

5) Required total = $140 + 180 + 120 = 440$

SET 2 SOLUTION

1) Required average = $(2000 + 1400 + 3000 + 3200)/4 = 2400$

2) Required ratio = $(1000 + 1500): (1800 + 1800) = 25: 36$

3) Required % = $(2000 + 2400)/(2200 + 1600) * 100 = 115.78\%$

4) Required difference = $(1400 + 3200) - (1200 + 2500) = 900$

5) Required % = $(2800 - 2000)/2800 * 100 = 28.57\%$

WP

1) Required ratio = (5/17 + 3/7): (12/17 + 4/7) = 86/119:152/119 = 43: 76

2) Let Principal = Rs. P, rate of interest = r% per annum
According to the question,
(P * (R + 4) * 3)/100 - (P * R *3)/100 = 96
=> 3PR/100 + 12P/100 - 3PR/100 = 96
=> P = 9600/12
=> P = Rs. 800

3) Number of female servants = 50 * (3/5) = 30
Number of male servant = 50 - 30 = 20
Now,
30 * 6x + 20 * 5x = 50 * 28
180x + 100x = 1400
x = 5years
So, 6x = 6 * 5 = 30 years

4) Solution
In an hour, the distance covered by the boat = 12 km
So, the time taken by the boat to go 60 km downstream = 60/12 = 5 hours
Let the time taken by the boat to go 60 km in still water = 't' hours
From the question:
t * 250/300 = 5
t = 6
So, the speed of boat in still water = 60/6 = 10 km/h

5) Let present age of Mohit and Shashi be (x - 5) years and y years respectively
Mohit's age after five years is 25% of Shashi's age three years ago
x = 1/4 (y -3)
y = 4x + 3
And, present age of Prabha = (x - 5 - 7) = (x - 12) years
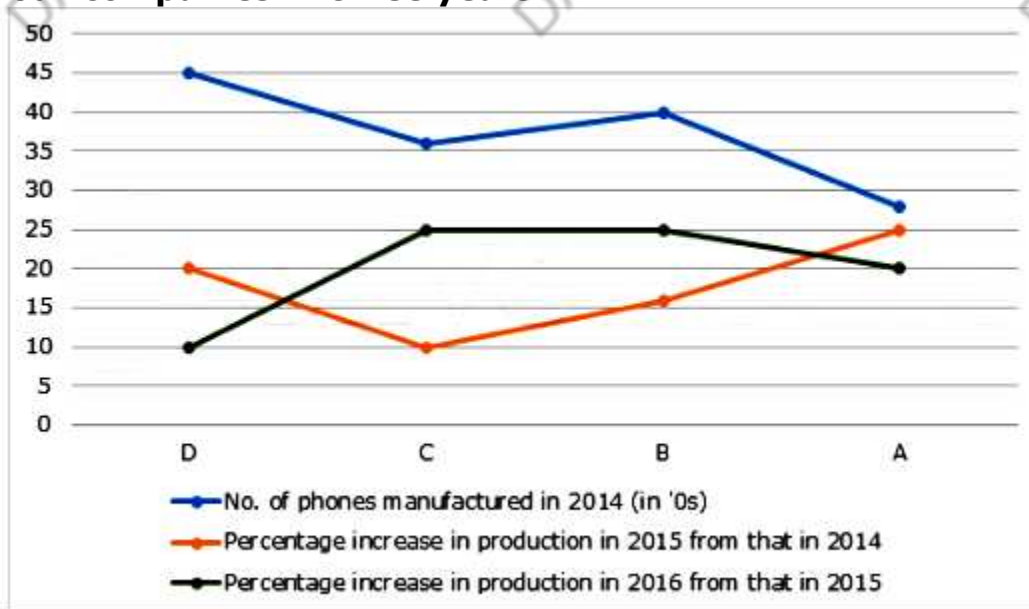And, sum of age of Shashi and Prabha is 71 years
=> (4x + 3) + (x - 12) = 71
=> 5x - 9 = 71
=> x = 16
Hence, present age of Mohit = 16 - 5 = 11 years

The following line graph shows the details of mobile phones manufactured by four companies in three years:

Legend:
- No. of phones manufactured in 2014 (in '0s)
- Percentage increase in production in 2015 from that in 2014
- Percentage increase in production in 2016 from that in 2015

1) By what percentage does the number of phones manufactured by B in 2015 vary from that by C in 2014?
A 25.55%   B 36.66%   C 28.88%   D 33.33%   E 23.33%

2) What is the ratio of the number of phones manufactured by A in 2015 to that by B in 2014 respectively?
A 5:12
B 7:8
C 1:4
D 7:20
E 3:4

3) What is the approximate percentage of phones manufactured by D in 2014 out of the total number of phones manufactured by B and D in 2014 and 2015?
A 28%   B 31%   C 21%   D 33%   E 24%

4) What is the difference between the total number of phones manufactured by D in 2014 and 2015 together and the number of phones manufactured by C in 2016?
A 445
B 450
C 515
D 495
E 475

5) What is the ratio of the total number of phones made by A in 2014 and 2015 to the difference of the number of phones made by D in 2015 and 2016 respectively?
A 35:3   B 15:4   C 7:2   D 9:5   E 14:5

SET 2
The bar graph shows the number of rooms booked by foreigners in three hotels Leela Palace, Oberoi Hotels and Taj Hotels in five years.

Number of rooms booked by foreigners in hotels

■ Leela Palace   ■ Oberoi Hotels   ■ Taj Hotels
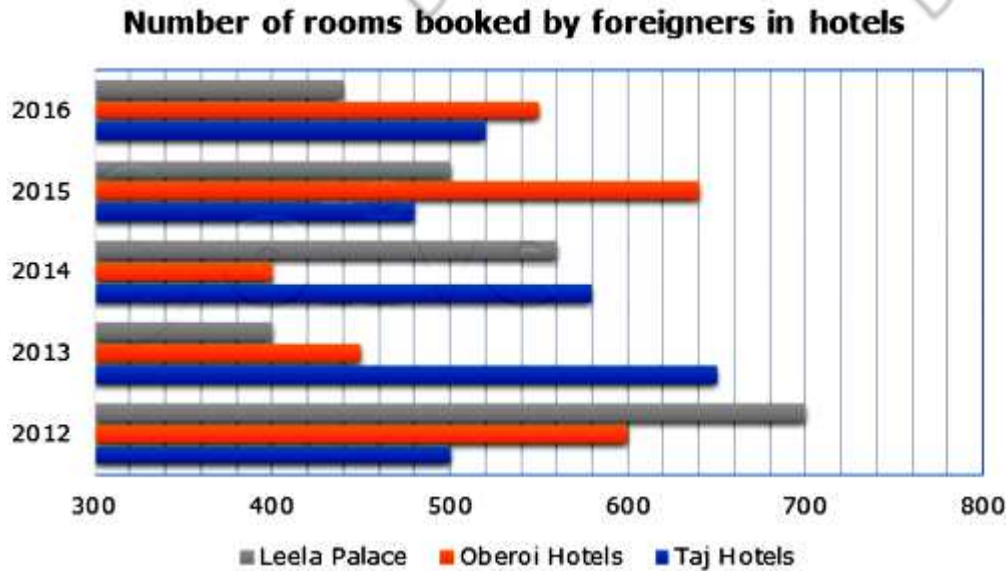
1) What is the average number of rooms booked by foreigners in Oberoi Hotels in five years?
A 534   B 528   C 514   D 524   E None of these

2) What is the difference between the number of rooms booked by foreigner in Taj Hotels from 2012 to 2014 together and the number of rooms booked by foreigner in Leela Palace from 2014 to 2016 together?
A 250
B 240
C 230
D 220
E 210

3) What is the difference between the average number of rooms booked by foreigner in these three hotels in 2013 and that of in 2012?
A 100   B 200   C 120   D 180   E 150

4) The number of rooms booked by foreigner in Oberoi Hotels in 2014 and 2015 together is what percentage less than the number of rooms booked by foreigner in Taj hotels in 2013 and 2016 together?
A 12.5%
B 13.33%
C 22.22%
D 11.11%
E None of these

5) What is the ratio of the number of rooms booked by foreigner in Leela Palace in 2013 and 2012 together to the number of rooms booked by foreigner in Taj hotels in 2015 and 2016 together?
A 12: 11   B 11: 12   C 11: 10   D 10: 13   E None of these

SET 3
Study the following information and answer the given questions.
The given data is regarding to the number of students studying in the three different colleges P, Q and R having three streams Mechanical Engineering, Electrical Engineering and Computer Science.

In college P : Number of students in Mechanical Engineering is 40 less than the number of students in Electrical Engineering. Number of students in Computer Science is 50% more than the number of students in Mechanical Engineering.

In college Q: Number of students in Electrical Engineering is 20 less than the number of students in college P in same stream. Number of students in Computer Science is 340 which is 40 more than number of students in College P in same stream. Number of students in Electrical Engineering is $22\frac{2}{9}$% more than the students in Mechanical Engineering.

In college R: Number of students in Mechanical Engineering in college R is 40% less than number of students in same stream in college P. Number of students in Computer Science is 40 less than the number of students in Mechanical Engineering.
Total number of students in Electrical Engineering is 780.

1) Find the difference between number of students pursuing Computer Science from college Q and number of students of Mechanical Engineering from college R.
A) 220   B) 280   C) 340   D) 320   E) 260

2) What is the number of students of Electrical Engineering from college R?
   A. 360
   B. 280
   C. 320
   D. 400
   E. 240

3) Number of students of Computer Science from college R is what percentage of the number of students of Mechanical Engineering from college P?
A) 50%   B) 40%   C) 60%   D) 30%   E) None of these

4) What is the total number of students of three streams Mechanical Engineering, Electrical Engineering and Computer Science from college P?
   A. 700
   B. 640
   C. 540
   D. 740
   E. None of these

5) What is the ratio of the number of students of Mechanical Engineering from college Q to the number of students of Mechanical Engineering from college R?
   A. 4 : 5
   B. 3 : 2
   C. 3 : 4
   D. 1 : 2
   E. 5 : 4

SET 4
Study the data given below and answer the following questions.
Pie chart-1 given below shows percentage of total sales of milk in six different states (P, Q, R, S, T and U) by two companies A and B. Bar graph shows the sales of milk by company A in each states as % of total sales of milk. The total quantity of milk sold is 200000 liters. Study the pie chart and bar graph carefully and answer the following questions:

% Sales of milk in different States
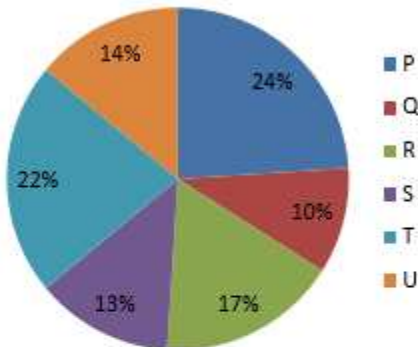
Sales by Industry A
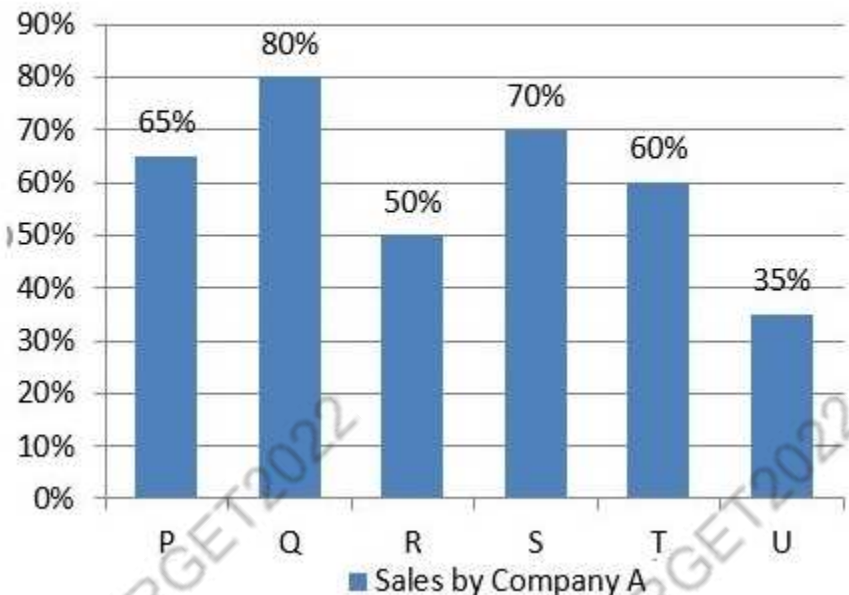
1) What is the average sales of milk (in liters) by the company A in states P, R, T and U?
A) 21100   B) 26466.6   C) 19200   D) 26000   E) 24250

2) What is the respective ratio of sales of milk in states P and Q by company B and the sales of milk in state R and T by company A?
A) 52:109   B) 104:217   C) 52:31   D) 31:57   E) 35:43

3) What will be the central angle (in degrees) formed by the average sale of milk in state Q, T and S together?
A) 24   B) 32   C) 54   D) 24   E) Can't be determined

4) What will be difference (in liters) in the sale of milk in state T by company B and the total sale of milk in state R and S together?
   A. 32000
   B. 28000
   C. 25000
   D. 37500
   E. 42400

5) What is the difference (in litres) between the quantity of milk sold in state R by company A and the quantity of milk sold in the same state by the company B?
A) 0   B) 2000   C) 14000   D) 13000   E) 1500

SET 1 SOLUTION

From the data, we see that for D:
No. of phones manufactured in 2014 = 450
Percentage increase in 2015 = 20%, so no. of phones
produced in 2015 = 120% of 450
Percentage increase in 2016 = 10%, so no. of phones
produced in 2016 = 110% of (120% of 450)
We tabulate the given data as follows:

	2014	2015	2016
D	450	20%	10%
C	360	10%	25%
B	400	16%	25%
A	280	25%	20%

1) No. of phones manufactured by B in 2015 = 1.16 * 400 = 464
Percentage = (464 - 360)/(360) * 100% = 28.88% more

2) Ratio = (1.25 * 280):400 = 7:8

3) Total no. of phones manufactured by B and D in 2014 and 2015 = (100 + 116)% of 400 + (100 + 120)% of 450 = 216% of 400 + 220% of 450 = 864 + 990 = 1854
Percentage = 450/1854 * 100% = 24.27% ~ 24%

4) Difference = (100 + 120)% of 450 - 125% of 110% of 360 = 220% of 450 - 137.5% of 360 = 990 - 495 = 495

5) Ratio = {(100 + 125)% of 280}:{(110 - 100)% of 120% of 450} = (225% of 280):(12% of 450) = 35:3

SET 2 SOLUTION

1) Total number of rooms booked by foreigners in Oberoi Hotels in five years = (600 + 450 + 400 + 640 + 550) = 2640
Required average = (600 + 450 + 400 + 640 + 550)/5 = 528

2) Required difference = (500 + 650 + 580) - (560 + 500 + 440) = 230

3) Required difference = ((500 + 600 + 700)/3) - ((650 + 450 + 400)/3) = 100

4) The number of rooms booked by foreigner in Oberoi Hotels in 2014 and 2015 together = 400 + 640 = 1040
The number of rooms booked by foreigner in Taj hotels in 2013 and 2016 together = 650 + 520 = 1170
Required % = (1170 - 1040)/1170 * 100 = 11.11%

5) Required ratio = (700 + 400): (480 + 520) = 1100: 1000 = 11: 10

SET 3 SOLUTION

Number of students in Electrical Engineering in college P = x
Number of students in Mechanical Engineering in college P = x – 40
Number of students in Computer Science in college P = (x – 40) × 150%
Number of students in Electrical Engineering in college Q = x – 20
Number of students in Computer Science in college Q = 340
(x – 40) × 150% + 40 = 340
$\Rightarrow$ 1.5x – 60 = 300
$\Rightarrow$ 1.5x = 360
$\Rightarrow$ x = 240
Number of students in Electrical Engineering in college Q = 240 – 20 = 220
Number of students in Electrical Engineering in college P = x = 240
Number of students in Mechanical Engineering in college P = 240 – 40 = 200
Number of students in Computer Science in college P = (240 – 40) × 150% = 300
Number of students in Mechanical Engineering in college Q = $\frac{\frac{220}{1100}}{9} \times 100$ = 180
Number of students in Mechanical Engineering in college R = 200 × 60% = 120
Number of students in Computer Science in college R = 120 – 40 = 80
Total number of students in Electrical Engineering = 780
Number of students in Electrical Engineering in college R = 780 – 240 – 220 = 320

1) Number of students in Computer Science in college Q = 340
Number of students in Mechanical Engineering in college R = 120
Required difference = 340 - 120 = 220
Hence, the correct answer is option A.

2) Using the data from the common solution, we get
Number of students in Electrical Engineering in college R = 320
Hence, the correct answer is option C.

3) Number of students of Computer Science from college R = 80
Number of students of Mechanical Engineering from college P = 200
Required percentage = $\frac{80}{200} \times$ 100% = 40%
Hence, the correct answer is option B.

4) Total number of students of three streams Mechanical Engineering, Electrical Engineering and Computer Science from college P = 240 + 200 + 300 = 740
Hence, the correct answer is option D.

5) Number of students of Mechanical Engineering from college Q = 180
Number of students of Mechanical Engineering from college R = 120
Required ratio = 180 : 120 = 3 : 2
Hence, the correct answer is option B.

SET 4 SOLUTION

1) Required average =
$$\frac{200000 \times \left(\frac{24}{100} \times \frac{65}{100} + \frac{17}{100} \times \frac{50}{100} + \frac{22}{100} \times \frac{60}{100} + \frac{14}{100} \times \frac{35}{100} \right)}{4} = 21100.$$

2) ratio of sales of milk =
$$\frac{\frac{24}{100} \times \frac{35}{100} + \frac{10}{100} \times \frac{20}{100}}{\frac{17}{100} \times \frac{50}{100} + \frac{22}{100} \times \frac{60}{100}} = 104 : 217$$

3) average sale of milk in state Q, T and S together =
$$\frac{200000 \left(\frac{10}{100} + \frac{22}{100} + \frac{13}{100} \right)}{3} = 30000$$

So, Central Angle corresponding to avg. sales = $\left(\frac{30000}{200000} \times 360 \right) = 54$

4) sale of milk in state T by industry B = $200000 \times \frac{22}{100} \times \frac{40}{100} = 17600$

Total sale of milk in state R and S together = $200000 \times \left(\frac{17}{100} + \frac{13}{100} \right) = 60000$

So, Reqd. difference = 60000-17600=42400

5) Reqd. difference = $200000 \left(\frac{17}{100} \times \frac{50}{100} - \frac{17}{100} \times \frac{50}{100} \right) = 0$

SET 1

Distribution of candidates who were enrolled for MBA and the candidates (out of those enrolled), who passed the exam in 7 different Institutes- P, Q, R, S, T, U and V.
The table below shows percentage of male candidate out of total candidates who passes the exam from different Institutes.

Institutes	Percentage of male candidates
P	40
Q	60
R	35
S	75
T	30
U	80
V	60
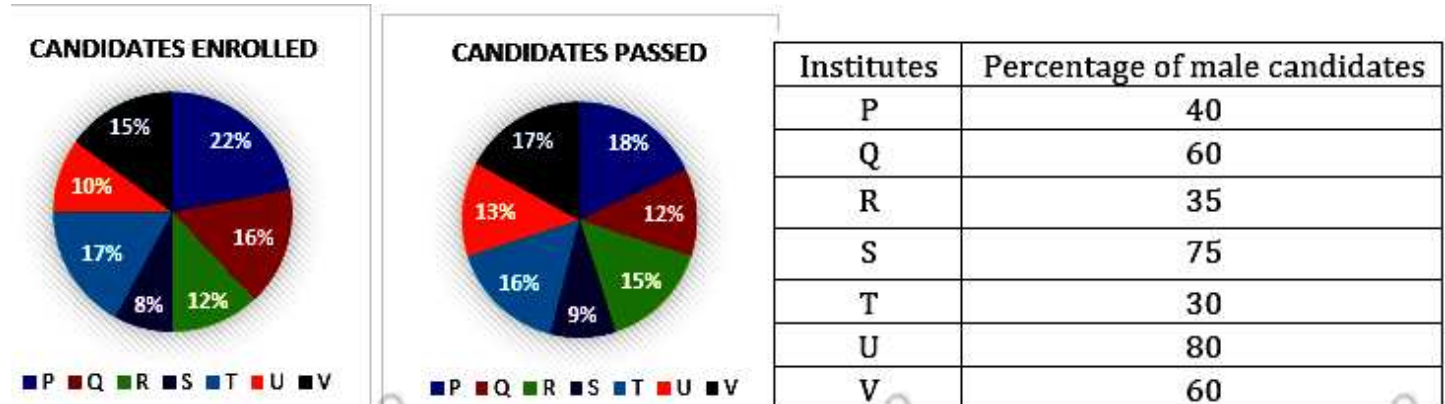
1) If 2500 candidates passed the exam from institute R then what is the ratio between the number of male candidates passed the exam from institute T and V?
A) 2:3   B) 3:4   C) 8:17   D) 4:5   E) 9:10

2) What is the approximate average number of female candidates passed from institutes R, S and T, if the total number of passed candidate from Institute V is 3400?
A) 1547   B) 1600   C) 2400   D) 1467   E) 1879

3) 2080 male candidates passed the exam from institute U. If the total number of candidates passed from all the institutes together is 25% of the total enrolled candidates from all the institutes, then find the average number of candidate enrolled from institute P, Q, R and S.
A) 30000   B) 15000   C) 19000   D) 25000   E) 11600

4) If 50000 candidates passed the exam from all the institutes together, then the number of male candidates passed from Institute Q is approximately what percent more or less than the number of female candidates passed from Institute V?
A) 6 % more   B) 15 % more   C) 12% less   D) 13% less   E) 10% more

5) If the number of candidates who passed the exam from institute T is 2800 more than that the number of candidates who passed the exam from Institute S, then find the percentage of male candidates who passed the exam from Institute S out of total candidates who enrolled from institute S?
A) 10%   B) 28.125%   C) 25%   D) Cannot be determined   E) None of these

SET 2

Pie chart given below shows the percentage distribution of differences between the number of won matches and that of lost matches played by 5 teams P, Q, R, S and T.
Sum of pie chart is 50

Legend: P, Q, R, S, T
16%, 20%, 22%, 24%, 18%
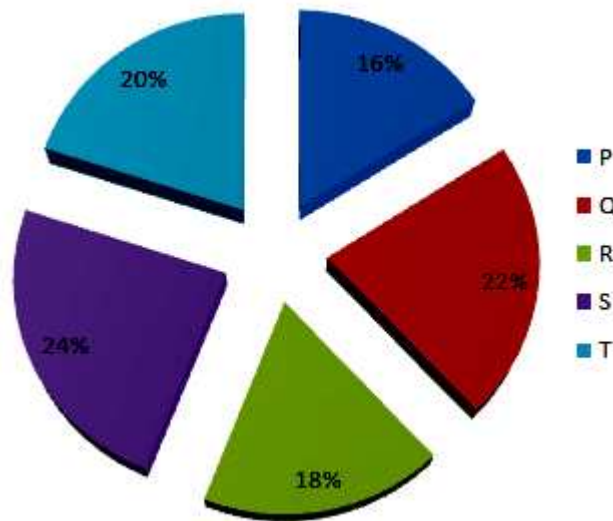
Note: For each team, number of won matches is more than that of lost matches and each team either won the match or lost the match.

1) If team P lost 12 matches, then find the total number of matches played by team P?
A) 34
B) 24
C) 30
D) 28
E) 32

2) If team R played 45 matches, then the number of matches won by team R is what per cent of that lost by team R?
A) 150%   B) 120%   C) 130%   D) 140%   E) 160%

3) If team S lost 10 matches, then find the ratio of the number of matches won by team S to that lost by team S?
A) 9: 4   B) 11: 6   C) 9: 7   D) 11: 5   E) 9: 5

4) If total number of matches played by team Q is 56% more than that won by team Q, then find the number of matches won by team Q?
A) 22   B) 26   C) 25   D) 24   E) 23

5) Find the average of the differences between the number of won matches and that of lost matches of teams P, S and T?
A) 12   B) 10   C) 15   D) 18   E) 16

SET 3

Read the following table carefully and answer the questions given below. Following table shows total number of people visit four different momentum places (Red fort, Charminar, Taj mahal, Hawa mahal). Percentage distribution number of children and ratio of male to female visit to that place.

Monument place	Total no. of people	Percentage of number of children	Ratio of Male to Female
Red fort	400	10%	5:4
Charminar	280	25%	3:4
Taj mahal	450	–	11:7
Hawa mahal	560	–	9:5

Note: (i) Total no. of children visits to Taj mahal and Hawa mahal together = 230
(ii) No. of children visit to Hawa mahal is 50 more than no. of children visits to Taj mahal.

1) No. of children visit to Hawa mahal is what % more/less than no. of male visit to Red Fort?
A. 10%
B. 20%
C. 44%
D. 30%
E. 65%

2) No. of female visit to Charminar is how much more than no. of male visit to Hawa mahal.
A. 125
B. 150
C. 175
D. 225
E. 200

3) Find the ratio of no. of children visit to Taj mahal to no. of female visit to Red Fort.
A. 11:16   B. 9:17   C. 10 :17   D. 4:11   E. 9:16

4) Find the average no. of children visit to all the four places.
A. 85   B. 57   C. 104   D. 46   E. 62

5) Ticket price for every male, female and children who visit to Charminar is Rs.40, Rs.30 & Rs.15 respectively. Find the total amount.
A. Rs.5150   B. Rs.8250   C. Rs.7850   D. Rs.5650   E. Rs.4450

SET 1 SOLUTION

1) Number of male candidates passed from institute T

$$= \left(\frac{2500}{15} \times 16\right) \times \frac{30}{100} = 800$$

Number of male candidate passed from institute V

$$= \left(\frac{2500}{15} \times 17\right) \times \frac{60}{100} = 1700$$

Hence, the required Ratio = 800 : 1700 = 8 : 17

Alternate Method:

2) Required Ratio = $\left(16 \times \frac{30}{100}\right) : \left(17 \times \frac{60}{100}\right) = 8 : 17$

Total number of candidates passed from all the institutes = $\frac{3400}{17} \times 100 = 20000$

Number of female candidates passed from institute R

$$= 20000 \times \frac{15}{100} \times \frac{(100-75)}{100} = 1950$$

Number of female candidates passed from institute S

$$= 20000 \times \frac{9}{100} \times \frac{(100-75)}{100} = 450$$

Number of female candidate passed from institute T

$$= 20000 \times \frac{16}{100} \times \frac{(100-30)}{100} = 2240$$

Required average= = $\frac{1950 + 450 + 2240}{3} = \frac{4640}{3} = 1547$

3) Total number of candidates passed from institute U
= 2080/80*100 = 2600
Total number of candidate passed from all the institute
= 2600/13*100= 20000
Total number of candidates enrolled from all the institute
= 20000/25*100   = 80000
Total number of candidates enrolled from P, Q, R and S
= 80000*58/100   = 46400
Required average = 46400/4= 11600

4) Required percentage = $\dfrac{12 \times 60\% - 17 \times (100 - 60)\%}{17 \times (100 - 60)\%} \times 100$

$$= \frac{72 - 68}{68} \times 100 \approx 6\%.$$

5) Number of candidates who passed the exam from Institute S = Let x
Number of candidates who passed the exam from institute T = 2800 + x
According to question,
$x/9 = (2800 + x)/16$
On solving, we get
x = 3600
∴ Number of candidates who passed the exam from institute S = 3600
We only know that out of total candidates enrolled, only 8% are enrolled in institute S, but we do not know the number of candidates enrolled in all the institutes together
So, we cannot find the number of candidates enrolled from institute S.
Hence, we cannot determined the answer

SET 2 SOLUTION

1) Difference between the number of won and lost matches of team P = 16% of 50 = 8
The number of won matches of team P = 12 + 8 = 20
So, total number of matches played by team P = 20 + 12 = 32

2) Difference between the number of won and lost matches of team R = 18% of 50 = 9
Total number of matches played by team R = 45
So, the number of matches won by team R = (45 + 9)/2 = 27
And the number of matches lost by team R = 45 - 27 = 18
Required percentage = (27/18) * 100 = 150%

3) Difference between the number of won and lost matches of team S = 24% of 50 = 12
The number of matches won by team S = 10 + 12 = 22
Required ratio = 22: 10 = 11: 5

4) Let number of matches won by team Q be x
and the number of matches lost by team Q be y
So,
(x - y) = 22% of 50 = 11 -----------(1)
And,
(x + y) = x * (156/100) = 39x/25
25x + 25y = 39x
y = 14x/25
From equation (1):
x - 14x/25 = 11
x = 25

5) Difference between the number of won and lost matches of team P = 16% of 50 = 8
Difference between the number of won and lost matches of team S = 24% of 50 = 12
Difference between the number of won and lost matches of team T = 20% of 50 = 10
Required average = (8 + 12 + 10)/3 = 10

SET 3 SOLUTION

1) Total no. of children visits to Taj mahal + Hawa mahal together = 230 .... (i)

No. of children visit to Hawa mahal – no. of childern visit to Taj mahal = 50 ...... (ii)

From (i) & (ii)

No. of children who visit to Hawa mahal = 140

No. of children who visit to Taj mahal = 90

No. of children visit to Hawa mahal = 140

No. of male visit to Red Fort = $400 \times \frac{90}{100} \times \frac{5}{9} = 200$

Req. % = $\frac{200-140}{200} \times 100 = 30\%$

2) No. of female visit to Charminar = $280 \times \frac{75}{100} \times \frac{4}{7} = 120$

No. of male visit to Hawa mahal = $(560 - 140) \times \frac{9}{14} = 270$

Req. difference = $270 - 120 = 150$

3) No. of female visit to Red fort = $400 \times \frac{90}{100} \times \frac{4}{9} = 160$

Req. ratio = $90 : 160 = 9 : 16$

4) No. of children's visit to Hawa mahal = 140

No. of children's visit to Taj mahal = 90

No. of children's visit to Red fort = $400 \times \frac{10}{100} = 40$

No. of children's visit to Charminar = $280 \times \frac{25}{100} = 70$

Req. average = $\frac{140+90+40+70}{4} = 85$

5) No. of children's visit to Charminar = $280 \times \frac{25}{100} = 70$

No. of male visit to Charminar = $280 \times \frac{75}{100} \times \frac{3}{7} = 90$

No. of female visit to Charminar = $280 \times \frac{75}{100} \times \frac{4}{7} = 120$

Req. amount = $70 \times 15 + 90 \times 40 + 120 \times 30 = 1050 + 3600 + 3600 = Rs.\,8250$

SET 1
Read the following data carefully and answer the following questions based on that.
Below pie chart shows percentage breakup of registered voters from different villages A, B, C, D, E and F.
Below line graph shows percentage of voting on the day of election in the given villages.
Total registered voters from these villages = 225000
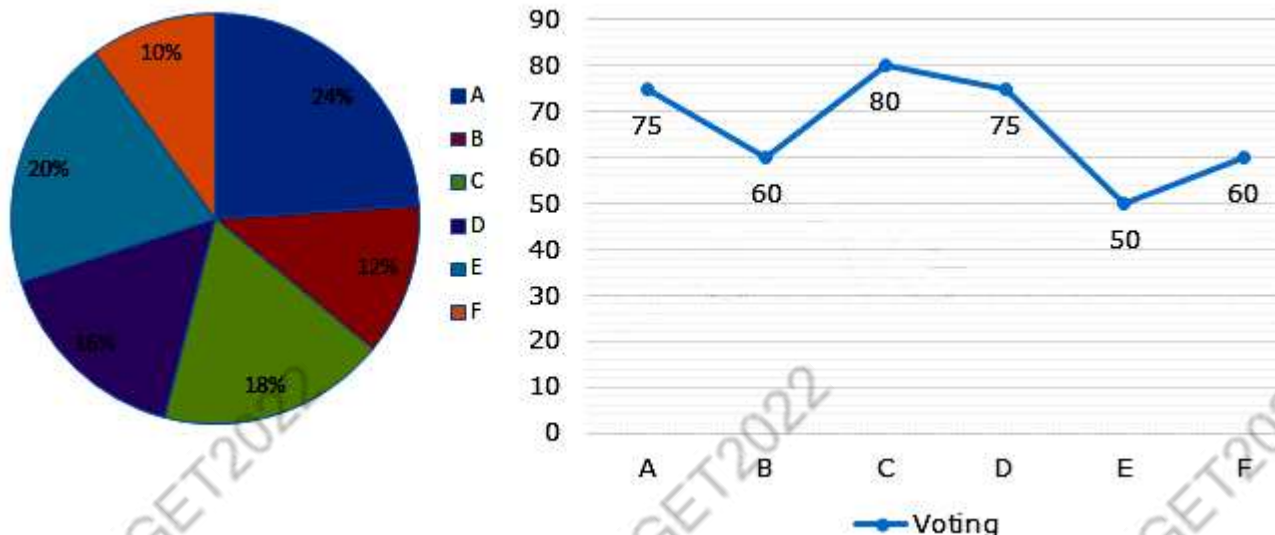
1) What is the ratio of total voting done in village C to village E?
A) 36:25   B) 23:21   C) 18:13   D) 36:23   E) 45:41

2) Total number of voters from villages A and B is approximately what percentage more than that of total number of voters from villages D and F?
A) 36.8%   B) 32.5%   C) 34.2%   D) 38.5%   E) 30.6%

3) In village B, four candidates P, Q, R and S contested elections and P got 30% of the total votes polled and the remaining votes are obtained by candidates Q, R and S in the ratio 2:3:4 respectively. What is the difference between number of votes casted to P and S?
A) 180
B) 190
C) 175
D) 185
E) 195

4) What is the average of number of votes casted in all the given villages?
A) 24750   B) 26550   C) 25350   D) 26750   E) 24450

5) If 60% of voters from village E are female and 75% of female from village E have casted their vote in the election, then out of the total male voters in the village, what percentage of male voted in the election?
A) 12.5%   B) 18.8%   C) 14.6%   D) 16.5%   E) 15.6%

SET 2

Five companies manufacture two types of bags i.e. backpacks and luggage bags. The bar graph given below shows the percentage of backpacks manufactured out of the total number of bags manufactured by each company on Monday. It also shows the difference between the number of backpacks and number of luggage bags manufactured by each company on Monday.
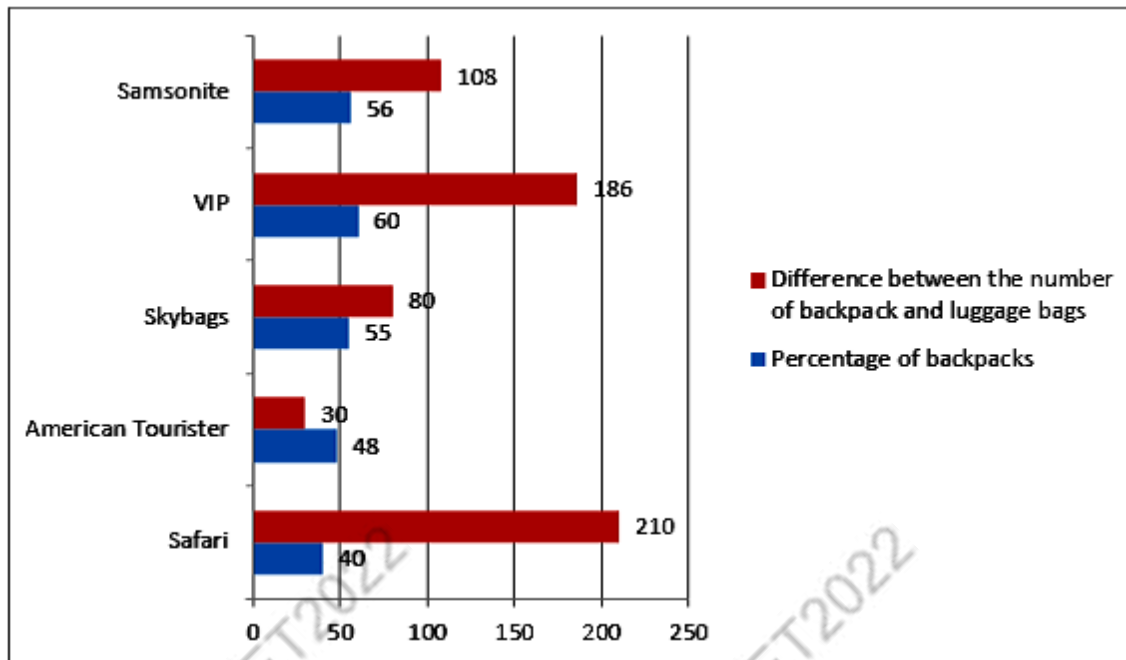
1) What is the ratio of the number of bags manufactured by Safari on Monday to the number of bags manufactured by Samsonite on Monday?
A. 2: 1 B. 5: 4   C. 7: 6 D. 9: 8   E. None of these

2) What are the average number of luggage bags manufactured by Safari, American Tourister and Sky bags on Monday?
A. 430   B. 440   C. 450   D. 460   E. None of these

3. Total number of bags manufactured by VIP on Monday is how much percent less/more than the number of bags manufactured by American Tourister?
A. 20%   B. 24%   C. 28%   D. 32%   E. None of these

4) Out of the total number of bags manufactured by Sky bags on Monday, only 60% of backpacks and 75% of luggage bags are sold. Find the total number of bags sold by Sky bags on Monday.
A. 520   B. 534   C. 548   D. 560   E. None of these

5) Number of backpacks and number of luggage bags manufactured by Samsonite on Tuesday are 25% more and 25% less than the previous day respectively. Find the total number of bags manufactured by Samsonite on Tuesday.
A. 909   B. 930   C. 900   D. 927   E. None of these

SET 3

There are 240 students in a coaching institute. All of them appeared for an exam that had 3 sections: A, B and C. Every student cleared at least 1 section. The number of students who cleared only section C was double the number of students who cleared only section B. 15% of the students cleared both sections B and C and 72 students cleared both sections A and B. 42 students cleared only section A which is 10 greater than the number of students who cleared only section B. 44 students cleared section B but not section A. The number of students who cleared section A was 16 more than the number of students who cleared section B.

1) How many students cleared section C?
A 98
B 108
C 136
D 124
E 118

2) How much percentage of students did not cleared section A?
A 35%
B 40%
C 45%
D 50%
E 55%

3) How many students cleared at least 2 sections?
A 102
B 96
C 108
D 112
E 120

4) number of students who cleared only section C?
A 16
B 22
C 18
D 24
E 40

5) What is the ratio of the number of students who cleared both sections A and B but not C to the number of students who cleared both sections A and C but not B?
A 5:4
B 7:3
C 7:4
D 8:5
E 8:3

SET 1 SOLUTION

Voters and voting can be calculated as:
From A:
Voters = 225000 x 24/100 = 54000
Voting = 54000 x 75/100 = 40500
Based on above data we get following results:

Village	Voter	Voting
A	54000	40500
B	27000	16200
C	40500	32400
D	36000	27000
E	45000	22500
F	22500	13500
Total	225000	152100

1) Total voting in village C = 40500 x 80/100 = 32400
Total voting in village E = 45000 x 50/100 = 22500
Required ratio = 32400/22500 = 36:25

2) Total voter from A and B = (54000 + 27000) = 81000
Total voter from D and F = (36000 + 22500) = 58500
Required percentage = 100 X (81000 - 58500)/58500 ≈ 38.5%

3) Total voting in village B = 16200
Total votes to P = 16200 x 30/100 = 4860
Remaining votes = (16200 - 4860) = 11340
Total votes to S = 11340 x 4/9 = 5040
Required difference = (5040 - 4860) = 180

4) Total votes polled = (40500 + 16200 + 32400 + 27000 + 22500 + 13500) = 152100
Required average = 152100/6 = 25350

5) Total voters from village E = 45000
Total female voters = 45000 x 60/100 = 27000 Male voters = (45000 - 27000) = 18000
Female votes casted = 27000 x 75/100 = 20250 Male votes casted = (22500 - 20250) = 2250
Required percentage = 100 X 2250/18000 = 12.5%

SET 2 SOLUTION

1. C

Sol. Total Number of Bags of Safari = Difference between number of backpacks and luggage bags of Safari ÷ (Percentage of luggage bags – Percentage of backpacks) = 210 ÷ (60 % – 40 %) = 1050

Company	Total number of bags	Number of backpacks	Number of luggage bags
Safari	$\frac{210}{0.20} = 1050$	$0.40 \times 1050 = 420$	$1050 - 420 = 630$
American Tourister	$\frac{30}{0.04} = 750$	$0.48 \times 750 = 360$	$750 - 360 = 390$
Sky bags	$\frac{80}{0.10} = 800$	$0.55 \times 800 = 440$	$800 - 440 = 360$
VIP	$\frac{186}{0.20} = 930$	$0.60 \times 930 = 558$	$930 - 558 = 372$
Samsonite	$\frac{108}{0.12} = 900$	$0.56 \times 900 = 504$	$900 - 504 = 396$

1) Desired ratio = $1050 : 900 = 7 : 6$

2) Desired average = $\frac{630 + 390 + 360}{3} = 460$

3) Desired percentage = $\frac{930 - 750}{750} \times 100 = 24\%$

4) Number of bag packs sold by Sky bags on Monday = $0.60 \times 440 = 264$

Number of luggage bags sold by Sky bags on Monday = $0.75 \times 360 = 270$

Total number of bags sold by sky bags on Monday = $264 + 270 = 534$

5) Number of bag packs sold by Samsonite on Tuesday = $1.25 \times 504 = 630$

Number of luggage bags sold by Samsonite on Tuesday = $0.75 \times 396 = 297$

Total number of bags sold by Samsonite on Tuesday = $630 + 297 = 927$

SET 3 SOLUTION

Number of students who cleared only section B = 42 - 10 = 32
Number of students who cleared only section C = 2*32 = 64
Number of students who cleared both sections B and C but not A = 44 - 32 = 12
Number of students who cleared both sections B and C = (15/100)*240 = 36
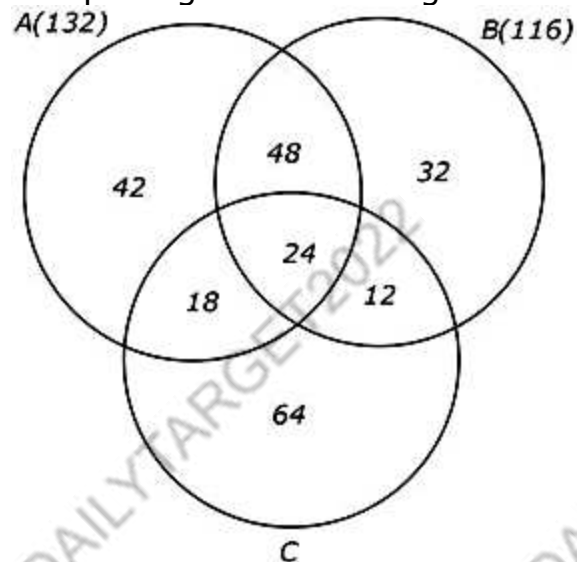Number of students who cleared all three sections = 36 - 12 = 24
Number of students who cleared both sections A and B but not section C
= 72 - 24 = 48
Number of students who cleared section B = 72 + 44 = 116
Number of students who cleared section A = 116 + 16 = 132
Number of students who cleared both sections A and C but not section B
= 132 - 42 - 72 = 18
Completing the Venn diagram

1) Number of students who cleared section C = 18 + 24 + 12 + 64 = 118

2) Number of students who did not cleared section A = 32 + 12 + 64 = 108
Required percentage = (108/240)*100% = 45%

3) Number of students who cleared at least 2 sections = 48 + 24 + 18 + 12 = 102

4) Required difference = 64 - 42 = 22

5) Required ratio = 48:18 = 8:3